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EXPERIMENTAL PRINCIPLES OF THE OPERATIVE TREATMENT OF FRACTURES AND THEIR CLINICAL APPLICATION.

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HUNTERIAN PROFESSOR OF THE COLLEGE; SURGEON TO THE BRISTOL GENERAL HOSPITAL.

(*Concluded from p. 441.*)

THE CLINICAL PROBLEM (*continued*).

The Method of Transfixing Bolts and Bolted Plates.

No metal nail or screw driven into a bone can remain tightly in position and resist a displacing force for very long unless it holds the bone by a broad flange. The most simple way of providing this broad grip is by using a bolt which transfixes the bone and is secured by a nut and washer on the opposite side.

Such a device has for a long time been advocated by Professor Depage, of Brussels, who has designed a very useful set of appliances for carrying it out, and has published many cases illustrating its use. No doubt this method is exceedingly efficient, particularly in the fixation of fragments at the articular ends of the long bones and in certain very oblique fractures of their shafts. But its efficiency can be still more increased and its scope extended if the transfixing bolts be used to fix metal plates on opposite sides of the bone. It will be convenient to describe the technique I have adopted, first for fractures of the articular ends, and secondly for fractures of the shaft.

The Bolting and Bolted-plate Methods in Para-articular Fractures.

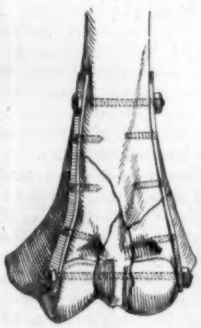
It is in the elbow, knee, and ankle that these fractures are most common and the most difficult to treat. There are two main things to be accomplished—first, the fixing of the broken fragments together, and then the firm attachment of the mended articular end to the shaft of the bone. The illustrations will give a good idea of the method. (Figs. 9, 10, and 21.)

In the case of the knee and the elbow the joint cavity must be opened, and the fragments reduced so exactly to their relative positions that the joint surface is perfectly restored. In this position they are held and transfixed by a long drill from side to side, and into the hole so made is passed a long bolt which is 3/32 inch or 1/8 inch thick according to the size of the bone. The head of the bolt carries one plate and another plate is passed over its opposite end and secured tightly by a nut, when the projecting end of the bolt is cut off. It is important that the bolt should be made of soft iron so as to make this latter proceeding easy. Then the other ends of the plate are bolted to the shaft of the bone after an accurate reduction of this part of the fracture. The plates are only 1/16 inch thick, and being of soft iron they become bent to fit the contour of the bone. The application of the second bolt so as to pass through the holes ready made for it in the plates must be done by means of a special drill guide. (Fig. 11.)

In the elbow this operation is somewhat difficult because of the close neighbourhood of the ulnar and musculo-spiral nerves, and because there is only one spot where the articular end of the humerus can be transfixed without entering the coronoid or olecranon fossæ. This spot lies just in front of the epicondyles, and to reach it the origin of the extensor muscles with the musculo-spiral nerve must be retracted outwards. In the ends of the femur and tibia which form the knee-joint the method is easy because there are very large surfaces for transfixion, and these surfaces are uncovered by any important structures.

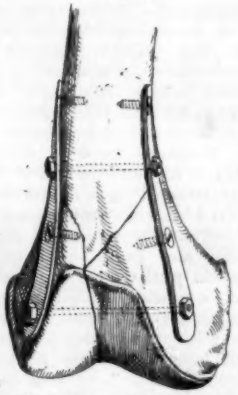
In bad cases of fractures close to the ankle-joint this method is of the greatest utility. It is absolutely essential that the malleolar processes of the tibia and the fibula should not only be accurately replaced, but that they should be so firmly fixed that they will not yield when the pressure of the body weight is put upon them. I show the ankle of a labouring man who was treated by one of the most up-to-date methods of non-operative methods—viz., that of immediate massage with early movements. It will be seen that although the end of the fibula has united very firmly to the shaft, the callus has yielded before the body weight and the socket of the ankle-joint become permanently deformed, so that unless it can be corrected the patient has an extreme talipes valgus which will incapacitate him from his ordinary work for the rest of his life.

FIG. 9.



Fracture of lower end of humerus into joint treated by bolted-plate method.

FIG. 10.



Bolted-plate method for fracture of the lower end of the femur.

Such a displacement as this could never have been prevented by any plate and screws which hold only to the outer surface of the broken bone. The bolted plate method, on the other hand, is very easy of application in fractures about the ankle, and I give an illustration of the foot of a woman weighing 18 st., who was able to walk four weeks after the operation, and when seen six months later had a perfectly good anatomical and functional result. (Fig. 21.)

The Bolted Plate Method for the Shafts of the Long Bones.

It is in the bones of the leg, the femur and the tibia, that this method is of the most value, because in this situation we have to aim at a union which is not only firm enough to withstand great muscular strain, but one which is strong enough to bear the weight of the body before the occurrence of full bony union.

I use plates made of soft steel (Fig. 12), nickel-plated, which vary in length from 2 to 4½ inches, in thickness from 1/32 to 1/8 inch, and in width from 5/16 to ¼ inch. Sometimes, especially in the case of a tibia, a flat plate is more convenient, but usually a curved plate not only lies more snugly, but gives much greater strength. The curved plates form a quarter of the circumference of circles of 3/8, 5/8, and 7/8 inch diameter. In some cases in the humerus, at the lower end of the femur and the lower end of the tibia it is most convenient to use two incisions, one at each side of the limb. But elsewhere the whole operation is done through a single incision, which must be of ample length. Having made a free exposure of the fracture down to and through the periosteum, which as far as possible is turned aside with the overlying muscles, the first and one of the most difficult problems is to reduce the displacement which in the leg requires the overcoming of great muscular force. It is most important, especially in thigh cases, to use the fullest possible weight extension by Bardenheuer's method from the moment the case comes under treatment until the anæsthetic is begun, and in this way, muscular shortening will to a large extent be prevented. But we must always be prepared to deal with cases where, through failure of non-operative treatment, displacement with overriding of fragments has taken place.

To deal with such a condition I think we ought to have a powerful apparatus which will reduce the bones and hold them in place without all that frantic pulling on the patient's leg by assistants and operator which is so very prejudicial to a deliberate and neat operation. Several such have been invented; the first, I think, was by Gerster, and lately Colt has adapted Gerster's idea of a "turn buckle" to two pairs of Lane's forceps; whilst Lambotte relies chiefly on a system of levers which acts upon the leg outside the area of the operation. The traction and fixation clamps which I have designed (Fig. 17) make use both of the reverse screw principle and also that of the leverage of the long handles to get the bones into position. They are fixed to the bones by three screws which bite into the substance of the shaft. They take a very strong hold upon the bone, and yet allow of movement in the three important directions, to correct overlapping, lateral displacement, and rotation.

The fragments being in good position, a heavy plate 1/2 inch thick, pierced with exactly parallel holes in the position of those of all the set of plates, is clamped to the bone and the holes all drilled by a twist drill right through the bone. The drill guide and clamp are removed and four bolts passed through one plate, are slipped into the holes, and a second plate fitted over their ends. The holes in all the plates correspond with one another, so that a long and a short or a flat and a curved plate can be used as pairs. (Fig. 13.)

When the curved plates are in place, and bolted together with four 1/8 inch screws and nuts, the bone is actually stronger than it was before the fracture. (Fig. 14.) In the two illustrative cases the femur patient was out of bed in a fortnight, and the man with the broken tibia in a week, and in twice these periods they could each bear their weight on the limb.

In the arm bones, where there is no question of weight bearing, it will often be sufficient to use a single curved plate, secured by split pins 3/32 inch thick. The humerus is much the most difficult bone to plate, because it is so closely wrapped round by important nerves, and its surface is often irregular so that the plate does not lie snugly upon it.

The Double Quadrant Plate.

The great drawback to the bolted-plate method is the wide exposure of the bone necessitated by it. It may sometimes be unwise or impracticable to strip three sides of the bone, and for such a case I have devised a plate which is really two plates united together at the two sides of a quadrant (Fig. 15) by four curved bars. If this be fixed to the bone by four screws in each plate it will be seen that the bone is held by one-quarter of its own substance, and that one set of screws being at right angles to the other, will divide the strain put upon each. As a further precaution, I would use metal-threaded screws, which are threaded in the bone, and the heads of which are firmly fixed by a screw threaded in the plate. Hence, when the screws are tight home the whole plate, with its eight screws, is a solid structure, and none of the screws can by any possibility come out unless they are deliberately unscrewed by a screw-driver.

The Triangular Plate.

The same principle of screws fixed to the plate and entering the bone at different angles may be embodied in a plate which is single, triangular in section, and bears holes for screws which take a direction alternately at right angles to one another. Such a plate will require a very small circumference of the bone to be bared, but its two series of screws will take a very wide hold of the bone and one which cannot be loosened except by taking the screws out of the plate. (Fig. 16.)

The Method of Intramedullary Pegs.

I have already described my technique for this method,[5] and I need only add a few words. I have found by experience that the introduction of the long peg, by traction of a wire threaded through its middle, is greatly facilitated by pulling apart the bone ends by the traction clamps, so that the wire is not jammed, and also by making two oblique grooves at opposite sides of one end of the bone in which the ends of the wire run without friction. All the pegs thicker than ¼ inch are of bone, and those below this are nickel steel or of ivory made in a solid piece with a fixed cross piece.

One of the prettiest operations that I know is the use of short pegs with fixed cross-pieces (to prevent their slipping into one fragment or the other) in a transverse fracture of both bones of the forearm. The peg usually need only be about 5/32 inch thick and ¾ inch long, and it effects the most perfect restitution and retention of the form of the bone through a small incision and with the greatest facility. It is only suitable for a few cases, those with almost transverse fractures and no comminution, and for bones like the radius and ulna when there is no tendency to angulation afterwards.

I must confess that I have not the same enthusiasm for intramedullary pegs which I had at first. And my cause of dissatisfaction has been that in certain cases, particularly the femurs of young patients, there is often formed a large spindle-shaped mass of callus. This is exactly what I have experienced in the femurs of cats, and I give a rather extreme illustration of it in a youth of 19, who, however, has had perfect use of his leg from two months after his accident and is quite

[5] Brit. Med. Jour., 1912, vol. ii.

FIG. 11.

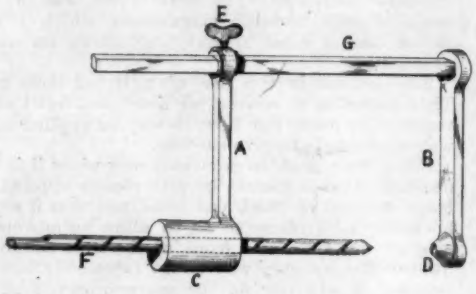


FIG. 12.

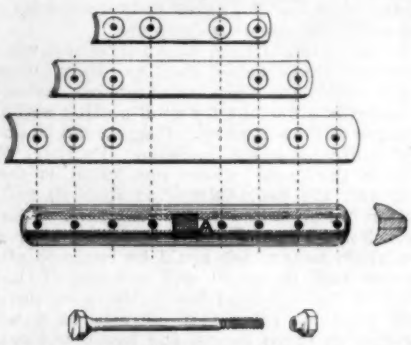


FIG. 11.—Drill guide for making a hole through corresponding points on the opposite sides of a bone. A = metal bar movable on the base, where it can be fixed at any point by the screw E. B = another bar fixed to G, parallel to A. C = metal cylinder ½ inch long perforated by a hole which just takes a twist drill. D = conical face at the end of B, which fits into the countersunk hole of a plate. The action of the guide ensures the drill F perforating the bone at the point D.

FIG. 12.—Three different sized curved plates, 2 in., 3 in., and 4½ in., and drill guide. The holes are so arranged in the plates as to exactly correspond, so that two plates can be used as an opposite pair, of the same or of different sizes. The drill guide contains holes corresponding to those of the whole series. The plates are of two shapes, flat and curved, and of 7 sizes—viz., $2 \times \frac{1}{8} \times \frac{1}{16}$, $2 \times \frac{1}{4} \times \frac{1}{16}$, $3 \times \frac{1}{4} \times \frac{1}{16}$, $3 \times \frac{1}{2} \times \frac{1}{16}$, $3 \times \frac{1}{2} \times \frac{1}{4}$, $4\frac{1}{2} \times \frac{1}{2} \times \frac{1}{16}$, $4\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$. The drill guide is shown in face and in section. A = groove which fits one jaw of a clamp. In section the guide is ½-inch thick, so that the drill held in its holes perforates the bone in exactly parallel paths. Below is seen a bolt and nut with hexagonal ends and countersunk faces.

FIG. 13.

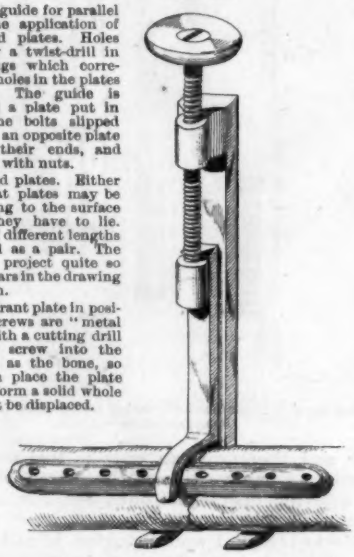


FIG. 14.

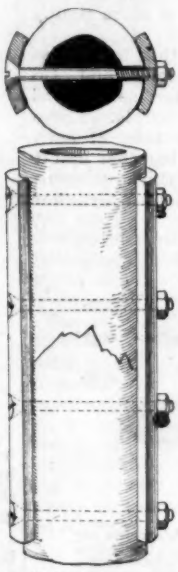


FIG. 15.

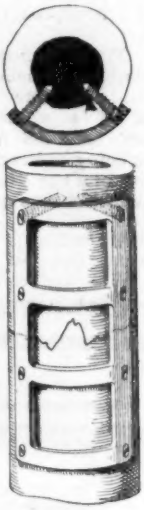


FIG. 16.

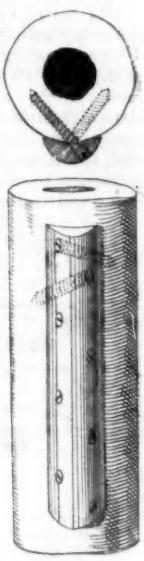


FIG. 13.—Drill-guide for parallel holes, for the application of double bolted plates. Holes are bored by a twist-drill in those openings which correspond to the holes in the plates to be used. The guide is removed and a plate put in its place, the bolts slipped through, and an opposite plate fitted over their ends, and screwed then with nuts.

FIG. 14.—Bolted plates. Either curved or flat plates may be used according to the surface on which they have to lie. Also plates of different lengths may be used as a pair. The nuts do not project quite so much as appears in the drawing—only $\frac{1}{16}$ inch.

FIG. 15.—Quadrant plate in position. The screws are "metal threaded" with a cutting drill point. They screw into the plate as well as the bone, so that when in place the plate and screws form a solid whole which cannot be displaced.

FIG. 16.—The triangular plate. The principle of this is the same as that of the quadrant plate, i.e., the metal-threaded screws screw into the plate as well as the bone, and are arranged in two series at an angle to one another. It requires a smaller exposure of the bone, but has not the same mechanical advantage as the quadrant plate.

FIG. 17.

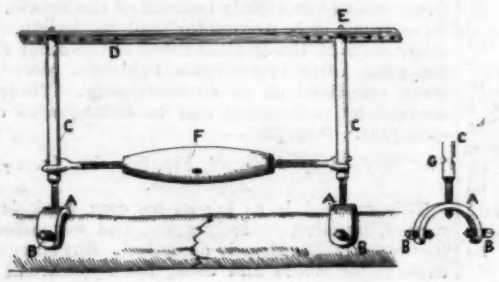


FIG. 17.—Clamps for separating and fixing fragments. A = horseshoe bearing three screws, B, B, and C, each of which have drill points. C forms a long handle by which the bone can be held or manipulated. When each fragment has been seized by a clamp, the bar F is adjusted so as to fit in the grooves (G) in the shaft of C, and then by the lever action of the handles and by the screw action of F the bones can be forcibly separated until the fragments are in apposition. The clamps allow the fragments to be freely moved in an axial, a lateral, or rotatory direction. When the fragments are in accurate apposition the bar D is slipped over the studs at the ends of C, C, and the bone is thus held whilst plates and screws are applied

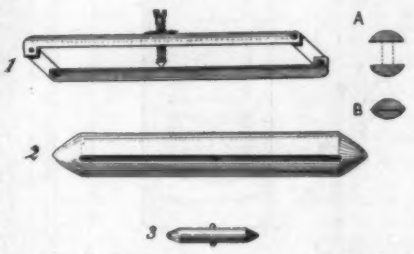
oblivious of the swelling. And again, however the peg is used, it can never hold the bones firmly or rigidly, and a patient can never walk upon a leg so mended until vital repair is complete.

The humerus is the bone above all others where pegging should find its chief use. As I have already noted, it is difficult to make an extensive exposure of the humerus sufficient for good plating without great danger to the soft parts. Pegging can be done through quite a small incision. Further, the humerus is the bone where non-union is most common, and the pegging method with its callus stimulation is well suited to prevent this. I have spent much time and thought in trying to make intramedullary pegs which could be removed after bone union had occurred, and although I have succeeded in this attempt I hardly think the device of much practical value. It consists of a wire spiral coiled in three layers, the inner and outer being circular turns and the middle longitudinal. It can be completely withdrawn from the bone without disturbing the fracture. Its defects are that it has to fit loosely, in order to be readily introduced, and that it is not rigid enough to act as an internal splint.

Another type of intramedullary peg, made both in steel and in ivory, is adjustable, folding in a small space and yet capable of expansion so that it fits tightly in the bone, holding it more rigidly than any solid peg.

The illustration (Fig. 18) shows this to consist really of two plates 3 inches long and 1/8 inch thick, curved on their outer surface to the circumference of a ½ inch circle. These are united by short bars 3/8 inch long at each end, the four pieces being so hinged together that it collapses to the form of a bar ¼ inch thick, or opens to a quadrilateral which forms part of a cylinder

FIG. 18.



Three types of intramedullary pegs. 1. = Adjustable peg made of metal or ivory. It is inserted closed, the section then being as at B ½″ × 1/8″. When inside the fracture it is opened by the screw, and when fully open it is part of a cylinder ½″ in diameter as in A. 2. = Long bone peg—full size being 3″ × ½″, with central hole and lateral grooves for insertion by wire traction. 3. = Small peg with fixed cross piece. This should be made of solid ivory and not perforated by a peg, which makes a weak place where most strength is needed.

¼ inch in diameter. This opening process is effected by means of one screw driven in through the fracture line where it remains, keeping the apparatus in place. When tightened up, this really forms a double internal plate and it holds the fragments beautifully rigid. It by no means fills the marrow cavity, and it fits so loosely when collapsed that, by means of a wire through the screw hole, it can be slipped into the interior of the bone without any boring, and the screw adjustment makes it tightly fit into any bone into which it can be placed.

The Treatment of Old Cases of Non-Union.

There are two measures which may be advocated for this condition. The first is the use of pegs made of solid metallic magnesium, which I have shown has a most stimulating effect on callus production.

The second is the use of a living bone graft, This latter is, of course, no new idea, but I would venture to point out how it may be applied in the way most likely to give success.

For a bone graft to grow in a new place it is very desirable that it should be very closely applied to a large surface of fresh cut bone, and that it should be firmly held there, so as to allow no movement. A graft cut from the front of the tibia cannot be used in the ordinary way as an intramedullary peg because it will not fit the marrow cavity of the

FIG. 19.

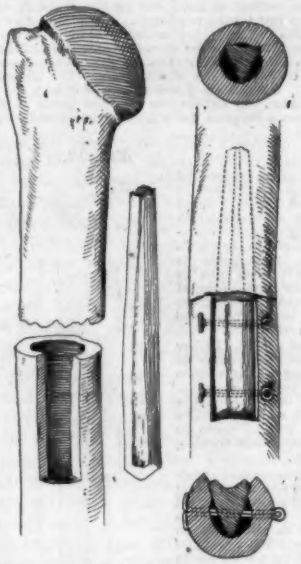


Diagram showing method of treating old ununited fracture by a bone graft from the tibia.

bone, and therefore can only be tied there loosely by wire. I believe this is the reason why many of the grafting operations done for non-union have given such poor results.

The technique I would suggest is as follows, and it is illustrated in a case of faulty union of the knee-joint 15 years after excision. The graft is cut of good length and substance by a special circular saw from the front of the tibia. It will be roughly square in section. The smaller end is to be pared down so as to fit tightly one end of the broken bone into which it is driven for half its length. The other half of the graft is fitted to the other end of the bone, after removing a sufficient piece from about one-third of its circumference. There it is secured by perforating and encircling wire or by split pins. (Fig. 19.)

The Method of Indirect Fixation by Transfixion Apparatus.

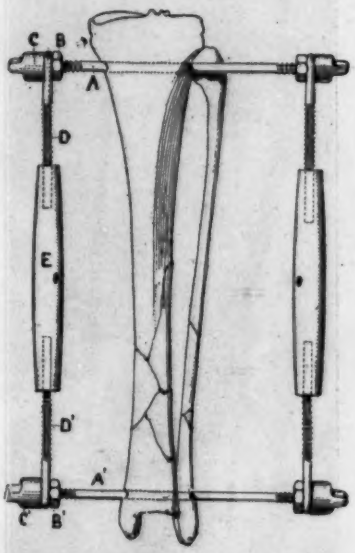
This method is, as far as my own work is concerned, founded entirely upon, and suggested by, the experiments already described. But since doing these experiments and using the apparatus I have

found that Dr. Lambret, of Paris, has invented practically the same thing.

I have attempted to apply the method of double transfixion to the humerus, femur, and the forearm, but without any success, and the method, as far as I know it, is only suitable for the leg below the knee. In the thigh it is possible to make an adaptation of the nail extension method of Steinmann and Codivilla by fixing the ends of the nail to steel extension bars which take their purchase from a ring round the groin, and this is useful when patients first begin to move after the nail extension treatment, as it shortens their stay in bed. The double transfixion apparatus is, however, invaluable in certain fractures of the lower leg bones, particularly those which are much comminuted or complicated by a wound or an unhealthy condition of the skin.

The principle of the apparatus is very simple, but the details necessary in its construction and application are important. The illustrations (Figs. 20, 22, and 23) will explain the nature

FIG. 20.



Double transfixion apparatus for complicated fractures of the leg bones. A, A' = highly tempered steel bars which transfix the tibia above and both bones below. They are sufficiently long to act as springs when their ends are pushed apart. One end of each is a drill point and the other is slotted to fit a drill handle, so that each is used to bore its own hole. B, B' = nuts screwed on to A, A' after insertion. C, C' = screw caps which protect the ends of A, A' and fix the apparatus rigidly when a correct position has been attained. D, D' = rods with eyes which slip over A, A' and opposite screw threads which fit into cylinder E.

and structure of the apparatus. Take, for example, a comminuted fracture of the lower end of both bones of the leg. The limb is cleaned in the ordinary way, and painted with 10 per cent. iodine from the knee to the toes. Everything is prepared in readiness and the patient is given gas, which must be employed for about five minutes. The two spots for transfixion are chosen and marked on the outside of the leg by short skin incisions. One should be just above the ankle-joint (one inch higher than the tip of the internal malleolus being a safe measurement), and the other opposite the tubercle of the tibia or lower down the leg (in this latter case the transfixion must go through the front of the tibia to avoid danger of wounding the vessels). The two transfixion bars, which are provided with bradawl ends and heads which fit a drill handle, are then made to pierce the bones, the lower one usually taking both tibia and fibula, the upper one the tibia only. Whilst this is done the leg must be strongly pulled upon and the fracture adjusted as accurately as possible. It is wise to use a drill guide, by which it is assured that the two pins enter the bone by exactly parallel routes. This is the only part of the operation for which the anæsthetic is necessary, but if it is the case of an excitable person it ought to be prolonged until the outside bars are screwed into place. These consist of rods which can be lengthened by means of a double or reversed screw, and which are fixed on to the transfixing pins by double nuts. The final adjustment of the bone can be made with the aid of the fluorescent screen.

If the transfixing pins are made of properly tempered steel they will act as a spring which keeps a constant extension as long as the side screws are tight. After a few days the patient can leave his bed and walk with crutches, and at the end of ten days he can put his foot to the ground and gradually bear his weight upon his injured leg. The little wounds on either side of the pins give no trouble, but they should of course be dressed at intervals. The apparatus is removed in three weeks in the comminuted cases when union is rapid, but it may be left on for six weeks in a case where union is slow.

THE CLINICAL PROBLEM: THE CHOICE OF METHOD.

For the practical man who wants to do the best for his patient, it is of the utmost importance to know what methods are available for the treatment of fractures and how they may be chosen for suitable cases. It is not so much a question as to whether method A, B, or C gives the best results if applied to all cases, but rather what are the special merits of each method which make them suitable for any special case.

The non-operative methods of fracture treatment fall into three groups—(1) immobilisation by splints and plaster; (2) massage with mobilisation; and (3) extension. Practically these three types of treatment represent principles two or three of which can often be applied for the treatment of the same case. But inasmuch as the massage and the extension methods are often spoken of as though they were self-contained and independent systems, it may be well to examine the chief possibilities and limitations of each of these methods.

Immobilisation by Splints or Plaster.

This is the old method, going back to prehistoric times. It is almost everything that is bad. It does nothing to reduce the deformity, it allows enough movement between the fragments to cause great callus excess, it keeps the patient in bed or inactive for the longest possible time, it does everything that can be done to make the muscles waste, the tendons adhere to their sheaths, and the joints to become fixed. And it conceals the prospect of all these evil results beneath the covering of elegant bandaging, so that they are not apparent until too late for remedy.

One good feature the method has, which unfortunately, with many, outweighs all its evils. It is easy both for patient and practitioner at the time. Perhaps one half hour is given to fixing the arm on an angular splint or to putting the leg into plaster,

and then nothing more has to be done for a month or two, except for the patient to enjoy his convalescence and the surgeon to come and chat to him about the weather from time to time. Hence it is that the method which goes back to the Pharaohs seems likely to flourish for many a generation to come, so long in fact as "Laissez faire," "Solvitur ambulando," and "Wait and see" are the most popular mottoes of the day.

There may be some who read these words and think them a gross exaggeration, for they say that many a case has done well by the splint and plaster treatment. This is quite true, and it is this that makes the whole difficulty. If every case treated by a splint became maimed or lame for life no argument would be needed to condemn the method. Possibly the majority of the patients treated by it get a finally good result. But this good result is not because of the treatment, but rather in spite of it—that is to say, splint treatment is not treatment at all, except in a negative sense of the word. It is treatment only in the sense that bed is the treatment for enteric fever. Every broken bone, the fragments of which are not much displaced, will, if protected from further injury, heal. But when the fragments are displaced, the splint or plaster will do nothing to restore the proper form to the bone, and they also increase the functional loss due to adhesion of muscles and joints.

The only fractures that do well with the splint treatment are those in which the displacement of the fragments is trivial, and in such cases prolonged splinting is quite unnecessary, except in the form of a movable splint, only to be used during exercise and taken off when in bed and for massage.

The fixing of a limb on a splint which immobilises the joint above and below the fracture, and which is not removed for weeks together, ought to be abandoned absolutely, unless under exceptional circumstances (e.g., lunatics, those who are at sea, or a patient suffering from delirium). Such treatment is either too much or too little. It is too much for a subperiosteal fracture without displacement, and it is too little for a complete fracture with displacement.

FIG. 21

Skiagram of the ankle of a woman who weighed 18 st., with a double malleolar fracture. Operation, June, 1913. Could put the foot to the ground three weeks later. Last seen December, 1913. The function was good.

FIG. 22.

Photograph of man's leg one week after the application of the double transfixion apparatus for a severely comminuted fracture above the ankle.

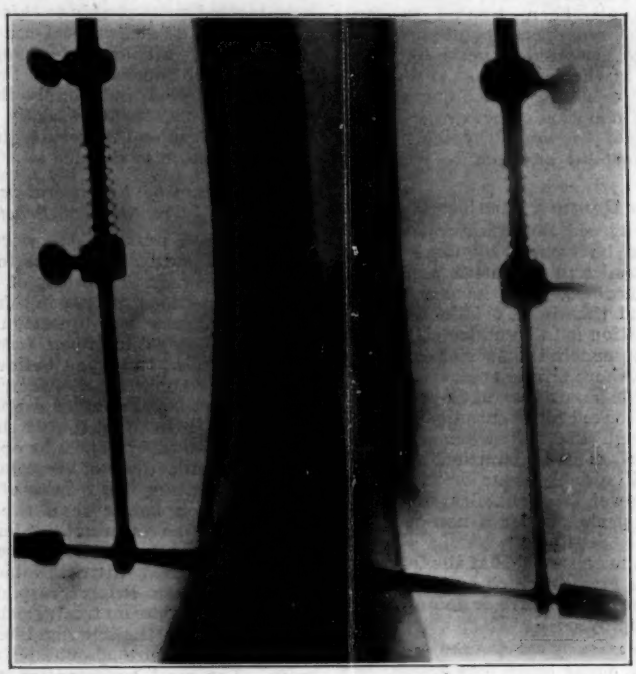
The Method of Massage and Early Movement.

This as the sole method of treating all fractures I know nothing about. To my mind it is an

important concomitant to other methods of treatment rather than a method standing by itself. About its value in those cases where there is but slight displacement there can be no doubt. It soothes pain, relaxes muscle spasm, and prevents both œdema and adhesions. It is its applicability to cases with much displacement which appears so doubtful. It is said that the light stroking massage, by which the limb is soothed, as it were, into a hypnotic trance, actually relaxes the muscles so much that the displaced bones can be replaced, and that this relaxation lasts not for the few fleeting moments of an anæsthetic but for hours, so that by two massage séances a day, the limb may be kept in proper position even with a complete and easily displaced fracture. This statement has been made, and its truth witnessed by so many careful observers that it would seem to be folly to doubt it, and yet there seems to be about it a flavour of romance which does not appeal to the practical surgeon.

There are three points about the method as applicable to bad fractures, which compel me to think that it will not be widely used. In the first place, it was never adopted at all widely in Paris, in spite of the enthusiastic advocacy of the late Professor Lucas-Championnière, and in that city the method is now but little used. Then it requires someone with a very special skill and experience to carry it out, and if this be the surgeon he must be prepared to devote about one hour a day to each case for some weeks. And, lastly, there has always been a reluctance on the part of the extreme advocates of the method to put forward X ray evidence that fractures with gross deformity can be treated by it in such a way that the deformity is reduced. This engenders a suspicion either that there are no cures of deformity to show or else that the deformities often go uncured. However, in cases without much displacement the method is invaluable both for the sake of expediting recovery and securing a perfect functional result. If used with a minimum of fixation apparatus which is taken off twice a day, it should replace the old immobilisation on splints for all the lesser degrees of fracture.

FIG. 23.



Skiagram of the same patient as in Fig. 22. The apparatus was removed after three weeks, and he returned to work in six weeks.

The Methods of Extension.

The method which has been applied with all the thoroughness of the Teutonic genius to the greatest number and variety of fractures with the best results is that of the late Professor Bardenheuer, of Cologne. No one else has ever produced such good results, or if so, such results have never been made public. But then Bardenheuer had 100 hospital beds, a large staff of assistants, and a nursing sisterhood all devoted to this one object, and even in Germany it has been found that the method is often difficult and unsatisfactory from a practical point of view. However, it has been proved beyond all doubt that the principle of extension, if efficiently applied, is capable of giving good results in all the regular fractures.

It is when it is sought to extend its scope to the treatment of complicated fractures, so that the simple longitudinal pull has to be reinforced by several lateral or rotatory pulls, that the method becomes difficult of application, and likely to give poor results at the cost of much delay in the hands of any but the most experienced. Codivilla and Steinmann have rendered very good service in showing that by transfixing the bones by a nail such powerful direct traction can be made on the bone by the nail that the extension principle will produce much greater and quicker results. This is of especial value in the femur of adults, where there is great muscular tension to be overcome.

By whatever method extension is applied, it will produce its full effect in relaxing the muscles and reducing displacement within a few days. Then the fracture ought to be re-examined by the X rays, and upon the result of this examination, depends the answer to the question of the need of operation in most cases. It cannot be too strongly insisted that the X ray examination of the fracture is not only the essential and most important point of the diagnosis, but that no method of treatment should be persisted in unless the X rays have proved that it has reduced the fragments to a good position. At the present day most of the really bad fracture results arise in cases which have been tied up in a splint for one or two months, and no X ray picture has been taken until obvious deformity and disability are demonstrated by other evidence.

There are two important cautions required in accepting an X ray verdict as to the good position

of a fracture. The first, which has often been mentioned, is that the picture should be taken from different directions. The reason for this is so obvious and has so often been demonstrated, that there is no need to dwell upon it. But the other is one not so generally recognised. It is that the good position of the bone at one period of extension may be quite lost later on when the soft callus yields to the traction of the muscles or to the weight of the body.

This applies especially to oblique fractures of the shaft of the femur in adults, and I show two examples. In each of these the fragments had been brought into good position by extension, but several weeks later the bone had again slipped, so that there was much over-lapping.

I am showing to-day, and leaving for your inspection, a number of skiagrams of mal-united fractures. These cases have all been seen for insurance companies in the course of the last two years. They have all been treated in large hospitals by approved non-operative methods, and in all of them there has resulted permanent total incapacity for work, in the legal sense of the term. This, I think, affords evidence, if such is needed, of the necessity of the adoption of better methods of treating fractures, not so much by the country doctor, as by the hospital surgeon, to whom he sends his cases.

The Cases for Operative Treatment.

Most surgeons are agreed that fractures without displacement are to be treated by massage and movement and intermittent retentive apparatus; that cases with displacement must have immediate extension applied, and that if this fails to give a good reduction, operation is to be undertaken. But the matter cannot be concluded so simply as this. For, on the one hand, there are some cases in which, in spite of considerable persistence of displacement, a good result may be looked for eventually: whereas in other cases, though the displacement can be reduced by the apparatus and extension, there is a probability that it will quickly recur, or that it will yield before the body weight or that firm union will occupy a very long period under a non-operative *régime*.

In general terms it may be said that the following groups represent the factors which will determine in most cases whether an operative or non-operative method should be employed:—

Factors which make for success of non-operative methods:—

Youth of patient—i.e., during active bone growth; until puberty there is great capacity for bone repair and restoration of form and function.

Subperiosteal or partial fracture.

Fractures with little or no displacement.

Fractures of one only of the paired bones of the forearm or lower leg, especially of the ulna or fibula.

The majority of arm fractures.

Factors which indicate advisability of operation:—

Adult age. In fully grown bones, especially those of old people, there is good capacity for repair, but little for restitution of mal-union.

Fractures with gross displacement, especially oblique and spiral fractures.

Fractures of the shafts of the femur and of both tibia and fibula.

Fractures into or near the elbow, knee, and ankle.

Of course, there will always be a certain group of cases about which surgeons will disagree. A man will advise non-operative or operative treatment in such cases according as he has skill, confidence, and experience in a particular method. And further there will always be some cases about which a broad-minded surgeon will be in doubt, and such cases can only be decided on their own merits and not according to any general law.

There is a week in which to make this decision, and it is well to avoid either extreme of deciding on operation too quickly or postponing it too long. If anatomical restitution of form is to be the chief guide it is unreasonable to act upon a skiagram taken before extension was applied, and it is foolish to wait until a mal-union has occurred between the bones. It is quite certain that no fair judgment can be made in this matter by any but one who has mastered both the non-operative and the operative treatment of fractures. The enthusiast for bloodless surgery will be liable to wait far too long trying his manipulations in some hopeless case of displacement; whilst the enthusiast for operations will give no time for a reasonable attempt at non-operative reduction in many a case which would have yielded quite simply to this treatment. I wish to make it quite clear that I am not advocating the treatment of all cases by non-operative means, reserving the operation for those in which the former has failed, but simply that in the doubtful cases one week's trial of really efficient extension should be given and its results judged by the X rays before operation be decided on.

Comparison of Non-operative and Operative Treatment of Fractures.

In the broad sense of the word it would seem to me to be absurd and useless to institute a "comparison" between the results of non-operative and operative methods of treating fractures. And yet one often hears the question asked, "Do you believe in operating upon fractures?" As well might one ask, "Do you believe in drugs?" or institute a comparison between the non-operative and operative treatment of dyspepsia. Personally, I have very little doubt that if the system of treating every case of dyspepsia by operation were to be compared with that of treating all such cases without operation the results of the former would be very much better than the latter. But both plans would be criminal. Similarly, to inquire whether the non-operative or operative methods of treating fractures give the better result, is to assume that there exists a responsible surgeon who would suggest that no fracture should be submitted to operation on the one hand, or another who says that every fracture should be dealt with by the knife. The most conservative surgeon would not allow a fractured patella with much displacement to go unsutured, nor would the most ardent advocate of operations suggest an open attack upon a subperiosteal fracture of the fibula without displacement. Therefore, the main problem must ever be, not non-operative *versus* operative methods, but rather the selection of those cases suitable for the one method or the other.

However, the comparison between the two groups of methods has recently been seriously undertaken by a committee of the Surgical Section of the British Medical Association, and they have, in spite of the illogical and impossible nature of their task, produced one of the most valuable contributions to the literature of fractures that has ever appeared. They have examined over 2900 cases, and not only recorded the remote results in all of these, but they have so carefully arranged and analysed their figures, that their results form a mine of information and an authoritative standard by which all

subsequent fracture work can be measured, and with which it can be compared. They themselves admit that, "It is undesirable to attempt to draw any final conclusions from this material as to the relative value of operative or non-operative treatment." Taking all cases together, the non-operative methods show 70·4 per cent. good functional results, whilst the operative claim 79·1 per cent. On the other hand, the non-operative produces 11·8 per cent. really bad results, and the operative 9·5 per cent. So that on this basis, which is that which shows the operative method in its least favourable light, there is this much to be claimed, that operative methods get 9 per cent. more good results and 2 per cent. fewer bad results than the non-operative. If the cases are divided into age groups, and only those considered above 15, then the results of operative are 21 per cent. better than those of non-operative methods.

Such figures will be regarded very differently by different observers. If there are any who think that all fractures could be treated by the one class of method or the other, then to such it will appear very doubtful whether only 9 per cent. better results for operative methods is justification for submitting 81 per cent. of patients to operation, who would have done just as well without it. But to the surgeon who thinks that operations should be reserved for the more complicated types of fractures, such figures would provide both encouragement and stimulus, for they would show that operations can produce better results in complicated cases, than the conservative methods do in the simplest.

The fact that out of a total of 2904 cases 2596 were non-operative and 308 operative is pretty clear evidence that at the period of observation, as only 1 out of every 10 cases was operated upon, these presumably were the most difficult and unpromising types. But without some knowledge of how cases were selected for operation, the figures can afford us no basis of comparison.

The great and lasting value of the fracture committee's report consists in the careful analysis of the anatomical and functional results of the large number of the non-operative cases they examined. Of the most fundamental importance is their demonstration of the dependence of good function upon perfect anatomical restoration. Good form secures good function in 90 per cent. of cases whereas moderate or bad restoration of form leads to bad function in 70 per cent.

It is particularly interesting to notice in which groups of cases the non-operative methods have given a high proportion of bad results, because this must give us a very significant indication as to the direction in which our operative activities may usefully be turned in the future. I have selected those cases only of patients over 15 years, because in general terms there is but little scope for operative treatment in any of the closed fractures of children.

Region of fracture.	Number of cases above 15 years.	Cases with good functional result.	
		Number.	Percentage.
Neck of femur	87	24	27
Upper third of femur	49	23	47
Lower end of femur	10	4	40
Tibia and fibula (simultaneous)	432	275	64
Pott's fracture	238	111	47
Supracondylic fracture of humerus	11	4	36

It is quite clear that there is great scope for improvement in all these groups, and I am certain that a proper operative technique could bring about this improvement in most cases. It will be noticed that five out of six of these groups are those in the operative treatment of which, I have urged already, on other grounds, the necessity of some special methods of fixation which attain the ideals of mechanical efficiency so necessary for success. The first group—that of fractures of the neck of the femur—presents a most difficult problem, which I do not feel at present justified in discussing. If we ask to what extent operators have attempted to deal with these groups of fractures we find clear evidence that these very cases, in which there is so much need for improved methods, surgeons have done but little. Of primary operations on adults there have only been the following:—

Neck of femur	0	Tibia and fibula	20
Upper third of femur	0	Pott's fracture	4
Lower end of femur	1	Humerus, supracondylic	0

And of these the only group containing enough cases to consider the proportion of successes—viz., that of the simultaneous fracture of the shafts of the tibia and fibula—the good functional results have only been 13 out of 20, i.e., 65 per cent.

The following inferences from these figures seem to be justified. 1. In these groups of cases there is greatly needed an improved method of treating adult fractures. 2. There is not any generally accepted method of operative treatment to meet this difficulty in any of these groups, with the exception of fractures of the shafts of the tibia and fibula. 3. At the date of the report it was in that group of cases which gives the best results to non-operative methods (tibia and fibula) that there has been the greatest activity in operating, whereas in those groups where there has been the greatest failure of the old methods the new surgery has done almost nothing. 4. Even in the one class where most operating has been done (tibias and fibulas) the results are only 1 per cent. better than those obtained by conservatism.

I think all these deductions from the report of the fracture committee point very strongly both to the need of the more frequent employment of operative treatment in certain groups of fracture, and also to the necessity of improving our operative methods. Progress in the treatment of fractures can only take place when all methods are mastered and applied with discrimination to suitable cases. There are two things necessary for a general improvement of our results. The first is that anatomically accurate reposition of the fragments, as demonstrated by the X rays, should be the standard by which the treatment of each case must be judged. The *laissez faire*, or "wait-and-see" policy of tying a limb to a stick and trusting to luck must be replaced by an accurate method of treatment, which only leaves the limb to nature if and when the bones are in good position. The second is that when we do operate we must employ a method which is mechanically efficient not only to bring the bones together but to hold them there firmly, whilst early movement is carried out and until solid union has occurred.

The ideals which I set before myself in the operative treatment of fractures are: 1. Not to operate upon any case which would probably give as good a result by conservative treatment. 2. To employ a method which will ensure perfect anatomical restoration of form. 3. To secure such efficiency of mechanical fixation that at the conclusion of the operation the bone is stronger than

before the fracture. 4. To do this by a method of fixation which will last for an indefinite time, and does not depend upon the frictional grip of nails and screws upon the bone. 5. To restore the limb to a condition in which it can be freely moved as soon as the skin wound has healed—i.e., in 7 to 14 days, and used for its full natural function in a period of 3 weeks to 3 months according to the bone involved. I am keenly alive to the fact that at present these ideals have not been fully attained, but I believe that there is nothing impossible in their attainment, and whilst these ideals remain unfulfilled, they provide both stimulus and goal for future work.

THE THYREOGLOSSAL TRACT.*

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IN the treatment by operation of the abnormalities which occur in the course of the thyreoglossal tract there is a tendency to excess on the one hand, by which essential thyroid gland tissue is removed under the mistaken idea that a new growth must be taken away, with the result that operative myxœdema, cachexia strumipriva, has followed; on the other hand, owing to limited operations on cysts, a sinus opening upon the neck is set up which persists, or is only cured after several operations.

The observations which have been made upon the development of the thyroid gland subsequent to the description given by His have shown that the thyroid gland is chiefly developed from the median thyroid rudiment.[1] This rudiment, in the human embryo during the third week, grows out below the floor of the primitive mouth in intimate relation to the developing hyoid bone. As the neck of the embryo elongates, it is carried backwards as a pedunculated mass. Then the enlarged end becomes bilobed and forms the isthmus and major part of the lateral lobes of the normal thyroid gland, whilst the pedicle under normal conditions to a large extent disappears or portions become constricted off and isolated in the line from the pyramidal lobe to the foramen cæcum.

Persistence of thyroid gland tissue in the course of the thyreoglossal tract stands in an inverse relation to the normal development of the thyroid gland. In vertebrates below mammals the median thyroid rudiment is the only source of thyroid gland tissue as distinguished by alveoli containing colloid. The dog-fish has simply a median thyroid which is continued forwards through the hyoid cartilage to end beneath the skin of the tongue. But in higher forms behind the last branchial pouches, or from a freely developed fifth branchial pouch, there arises a pair of outgrowths, the ultimobranchial (post-branchial, teleobranchial) bodies, which in mammals take some share in the formation of the lateral lobes of the thyroid gland.[2] Below mammals these ultimo-branchial bodies, although of an epithelial structure, do not exhibit follicles containing colloid. In echidna the lateral thyroid masses contain colloid but do not unite with the median thyroid process. In higher mammals this union occurs whenever normal thyroid gland is developed, but none the less the median thyroid rudiment has the largest share in its formation. Under normal conditions some thyroid gland alveoli containing colloid are generally found in the position of the pyramidal lobe. Also, but not so generally, as first discovered by Verneuil,[3] particles of thyroid gland tissue may be found at the root of the tongue.

From the clinical standpoint, however, no thyroid gland masses are noticeable in the course of the thyreoglossal tract under normal conditions; and, on the other hand, whenever such masses are met with the presumption should be that they are compensatory to some arrest in the development of the normal thyroid gland. More important still, when no proper thyroid gland is developed in the neck, then all the actively functional thyroid gland tissue is placed in the line of the thyreoglossal tract. If this suffices for the patient's needs the absence of the thyroid gland from its proper position passes unnoticed. When about puberty, especially in females, the thyroid gland tissue becomes temporarily more active and vascular, it is then that the existence of a mass at the base of the tongue, or about the hyoid bone in the neck, may present itself. Far from being a new growth or of recent formation, this ought to be considered a temporary parenchymatous enlargement of the patient's real thyroid gland, although it is not in the usual situation.

The median thyroid process in developing below the floor of the primitive mouth does so around a median ventral epithelial pouch. In the amphioxus this pouch is formed without any thyroid gland tissue around and, according to Wiedersheim, secretes mucus which sticks together entering food particles and so prevents them from being washed out again through the gills. In higher forms the epithelial sinus develops in the middle of the median thyroid rudiment, but the thyroid gland tissue always consists of closed alveoli containing colloid which do not open at any stage into the epithelial sinus. The glands which are formed by outgrowths from the epithelial sinus are similar to buccal glands; therefore this epithelial sinus is at no stage a duct of a thyroid gland. In man it forms the foramen cæcum, a blind pouch about 1 cm. deep into which open the mucous glands, to which it therefore forms a short common duct, and only in this limited sense can it be called the "lingual duct." Kanthack,[4] examining 100 adult cadavers, found the foramen cæcum absent in many cases and never any long sinus: the longest canal in a new-born child measured 5 cm. This epithelial sinus was called the "lingual duct" by Vater,[5] who by a forced injection made out a connexion between the foramen cæcum and the thyroid gland, a mistake repeated by others since Vater's time.

Whilst the normal condition in man is for a sinus lined by stratified epithelium to extend from the foramen cæcum a few millimetres backwards under the surface epithelium, and into which mucous glands open, it is subject to abnormalities of two kinds, a prolongation in the line of the median thyroid process, and a lateral branching. These persisting extensions may be lined either by squamous or by ciliated columnar epithelium, indicating that the sinus is developed at the junction of the primitive mouth with its covering of squamous epithelium and of the primitive pharynx lined by ciliated epithelium. But neither the squamous epithelium nor the ciliated columnar epithelium has any essential connexion with the thyroid gland.

When the prolongation of this epithelial sinus in

* A paper read at a meeting of the Surgical Section of the Royal Society of Medicine on Feb. 10th, 1914.

the line of the median thyroid process is cut off from its connexion with the foramen cæcum, there is developed a cyst, which is usually seen in the neck just below the hyoid bone, less commonly underneath the position of the foramen cæcum. Therefore, although the median thyroid process is developed around this epithelial sinus, the two should be regarded as having no physiological connexion. Stillborn and non-viable myxœdematous infants such as are not uncommon in goitrous districts may present no development of thyroid tissue at all. The epithelial sinus and its outgrowths then exist alone. Thus in the case of a female child aged 3 months, 50 cm. in length and markedly myxœdematous, there was a complete absence of the thyroid gland, but in the position of the foramen cæcum an irregular epithelial cystic mass (Dieterlé [6]). Among a collection of 25, eight such cases were described by Ungermann.[7]

In a myxœdematous infant a small, although insufficient, mass of thyroid tissue may be found. Thus a myxœdematous infant aged 6 months, 53 cm. in length, with short thick extremities, was noted post mortem to have no sign of a normal thyroid; there was an enlargement of the pituitary body and at the base of the tongue a cyst of the size of a pea with some thyroid gland follicles containing colloid in its wall (Ashoff [8]). Even if lateral thyroid or parathyroid masses exist in the neck, yet, if there has been a deficiency in the development of the median thyroid rudiment, myxœdema results. Hence, if on clinical examination no isthmus can be felt in front of the trachea, gland-like swellings alongside the trachea should be considered parathyroid, and not assumed to be true functional thyroid gland tissue.

Thus in a boy aged 3 months, 46 cm. long and markedly myxœdematous, along with a complete absence of the normal thyroid gland, there was found an epithelial cystic tumour at the base of the tongue, and in the neck on either side of the trachea four normal and eight accessory parathyroids. In the case of a girl aged 8 months with marked myxœdema there was an absence of a normal thyroid gland. At the foramen cæcum there was a sinus with branching tubes ending in an epithelial cyst, and around this a very little thyroid gland tissue. In the neck on either side of the trachea were altogether eight parathyroid masses (Erdheim [9]).

There may, however, be sufficient thyroid gland tissue developed at the base of the tongue. Thus, a man aged 30 died after excision of the lip for tuberculous disease. During life there had been no sign of any thyroid insufficiency nor of any swelling at the base of the tongue. Post mortem there was found lying under the foramen cæcum a mass of thyroid gland tissue the size of a chestnut, the alveoli containing colloid. There was no sign of a normal thyroid gland, but by the side of the trachea below the thyroid cartilage were on the right side two masses and on the left one, the size of peas, embedded in fatty and fibrous tissue. On microscopic examination these masses were found to resemble in structure the normal thyroid gland, but the alveoli did not contain colloid. The lingual mass had therefore been the only actively secreting thyroid gland, and the bodies beside his trachea were probably destitute of any such function (Ungermann).

From the standpoint of a clinical examination, then, it is of primary importance to recognise the presence of the isthmus of the thyroid gland or the reverse. When the isthmus is absent so that the tracheal rings from the cricoid cartilage downwards can be felt it should be assumed that the patient's actively secreting thyroid may have been developed in the course of the thyreoglossal tract, and although there may be a fulness on either side of the trachea suggesting the existence of lateral lobes, yet these may be parathyroids destitute of any true thyroid function.

This precaution has been ignored and cases of operative myxœdema following the removal of thyroid gland tissue in the course of the thyreoglossal tract have frequently occurred, and it has been estimated in a district where disease of the thyroid is frequent that it occurs in 1 out of 7 cases (W. H. Mayo [10]). But it is the individual cases which have to be carefully examined before deciding whether there are sufficient indications for the operation. A large number of the recorded cases show that lingual thyroids have been removed without taking note as to the proper development of the thyroid gland, and when they have been reported directly after the operation without waiting to see the result it is much to be feared that in some of the cases myxœdema supervened later. At any rate, there are a number of cases recorded in which myxœdema did subsequently arise and a review of them sufficiently explains the reason of its occurrence.

A tumour was removed from the base of the tongue of a girl, aged 14, after it had been noted for some months. It consisted of thyroid gland tissue with the alveoli containing colloid. A normal thyroid gland could not be felt. Some time later the patient died with symptoms of cachexia strumipriva (Seldowitsch [11]).

A cretin, aged 37, had a tumour the size of a walnut at the base of the tongue. When performing tracheotomy preliminary to excision no normal thyroid gland could be made out. The tumour removed showed thyroid gland tissue, partly normal, partly embryonic. The patient returned five months later suffering from cachexia strumipriva (v. Chamisso [12]).

A girl, aged 20, had no isthmus nor left lateral lobe, but there was a fulness supposed to indicate a right lateral lobe. A tumour the size of half a nut, consisting of thyroid gland tissue, was removed from the base of the tongue. Five months later a letter from the patient reported signs of myxœdema (Meixner [13]).

At the age of 7 a girl was noted to have an elastic swelling the size of a marble in the middle line of the neck at the level of the thyroid cartilage. It was removed and found to consist of thyroid gland tissue. Three weeks after the operation she began to show signs of myxœdema and continued under active medical treatment for ten years by thyroid extract, but remained at the time of the report in a state of chronic myxœdema (Morley Fletcher [14]).

On the other hand, many cases of lingual thyroid have been seen where the thyroid gland has been noted as absent, and then no operation of removal has been done. Since the two cases recorded by Butlin,[15] one of which afterwards showed signs of myxœdema, I have recognised the functional importance of a lingual thyroid. In three recent cases, all very similar, of girls about 20, with an absence of a thyroid isthmus and a swelling characteristic of a lingual thyroid at the base of the tongue, advice had been previously

given that the swelling should be removed, whereas, on the other hand, I advised against any such procedure. I have lost sight of the first two; in a third case she had been to a throat hospital and given a card of admission for operation. I gave her a certificate stating that myxœdema would result if the swelling were removed. All three were suffering from a temporary vascular hypertrophy of the only thyroid gland they possessed. Painting with iodine, the administration of iodide of potassium, perhaps a careful exposure to X rays, should be the treatment.

Where the swelling at the base of the tongue has become so prominent as to impair the breathing or has ulcerated and hæmorrhage has followed, then the removal of a small wedge and suture, or a limited application of the cautery is all that is indicated. An extensive submaxillary operation may not only be excessive but, when a normal thyroid gland is absent, a serious blunder. Fortunately some of the extensive removals have been probably incomplete in spite of the statements of the operators that they had shelled out the tumours. These thyroid masses at the base of the tongue are not circumscribed, but have branches or semi-detached portions so that the patients have been saved from myxœdema in spite of the objective of the surgeon. Hickman[16] described an extreme case of the kind forming a tumour extending from the circumvallate papillæ to the epiglottis and deep into the tongue which caused the death of the infant 16 hours after birth.

Turning to patients possessing a normal thyroid gland it is from the median thyroid rudiment that accessory thyroids so-called arise. The explanation is that they are lateral buds from this tract which are displaced as the embryo grows. Thus they may be found in the floor of the mouth above the mylohyoid to one side or the other. The position of such accessory thyroids corresponds with that of the frog's thyroid gland, in which there is a mass on each side at the tip of the lesser cornu of the hyoid bone, dorsal to the sternohyoid muscles.

In Paton's[17] case an accessory thyroid mass about the size of a walnut was situated underneath the right sublingual salivary gland, which he removed from under the jaw. I removed from the same situation the tumour[18] exhibited which measures 2½ by 1½ by 1 inches; a male child, aged 3 weeks, was suffering from dyspnœa, it had apparently a normal thyroid gland, and I saw it some time after healing in good health. The tumour has the usual naked-eye and microscopic appearances of a fibro-cystic thyroid adenoma, and in addition there are islands of hyalin cartilage which came from the region of the cornu of the hyoid bone.

A review of the cases where there has been an accessory thyroid to one or the other side of the true line of the thyreoglossal tract shows that where the normal thyroid gland has been developed their removal is sufficiently indicated; it is when the swelling is situated in the middle line that it may represent the true thyroid gland.

When there is a question in a doubtful case as to the necessity for operation, then it will be generally wise to treat the case expectantly. The only case which tended to become malignant that I can find recorded is the following. A woman, aged 42, with an apparently quite normal thyroid, had had a small tumour removed from the base of the tongue nine years before, when it was stated that not all had been removed. Two years later some enlarged glands were excised from the right submaxillary region; later there was a recurrence of the growth at the root of the tongue and in the right submaxillary region, and in addition an enlargement of the glands on the left side of the neck. At the first operation a mass of glands the size of the doubled fist was removed from the left side of the neck; at the second operation two enlarged glands the size of hazel nuts were removed from the right side, and a nodule the size of a small walnut from the base of the tongue. All showed thyroid gland tissue. The patient was exhibited six months later in good health without recurrence (Brentano[19]).

Thyreoglossal cyst.—The thyreoglossal cyst is generally situated in the neck, protruding just below the hyoid bone, forming whilst small a tense swelling as distinguished from a soft vascular thyroid tumour. It is, as explained above, the blind end of an epithelial sinus which has no functional importance. The cyst lies beneath the median raphe and the adjacent margins of the sternohyoid muscles; it is quite free from any connexion with the thyrohyoid membrane, but at the upper part of the cyst it is closely attached to the hyoid bone. If punctured it continues to discharge mucus, especially during deglutition; this mucus is derived from the mucous glands opening into the sinus especially near the foramen cæcum and from degeneration of the epithelium, but has no relation to thyroid secretion.

If the hyoid bone is hooked upwards, it may be possible to remove the cyst completely from behind the hyoid bone. But when the cyst extends up to the foramen cæcum and is of long standing, it has proved impossible to remove the whole of the cyst without dividing the hyoid bone.

I have thus divided the hyoid bone in the middle line when operating for the first time; but more especially when a fistula has persisted after a previously incomplete operation is this step necessary. In one case the patient had been operated upon elsewhere three times, in another case eight times before coming under my care. The excision of the cyst together with half an inch of the middle of the body of the hyoid bone was followed in both by permanent healing; the division of the hyoid bone is not followed by any disability. The latter case was exhibited at a meeting of the Clinical Section of the Royal Society of Medicine in May, 1913.[20]

In conclusion, I wish to express my thanks to the Royal College of Surgeons of England for permission to exhibit eight specimens from their museum.

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Portland-place, W.

PRIMARY CARCINOMA OF THE FIRST PART OF THE DUODENUM WITH SECONDARY INVOLVEMENT OF THE COMMON BILE-DUCT.

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PRIMARY carcinoma of the duodenum is a rare disease. Its actual frequency, as estimated by Brill[1] from the post-mortem records of Maydl, Nothnagel, Müller, and Lubarsch, is 0·3 per cent. of all cases of carcinoma (15 cases in 4675 deaths from carcinoma). In a majority of the recorded cases the disease has involved the second part of the duodenum, and in not a few of these the opening of the common bile-duct has been implicated. The case here recorded appears to be unique in that a carcinoma arising primarily in the first part has, by direct extension, come to involve the common bile-duct in the middle of its course, leading finally to a clinical picture in which the outstanding phenomena were those of obstruction in this latter situation.

On July 14th, 1913, a man, aged 61, was admitted to the wards of the General Infirmary at Leeds, under the care of Dr. A. G. Barrs. The appearance of the patient was striking. He was deeply jaundiced, the jaundice being remarkable for its ruddiness. He was feeble, wasted, and lethargic, obviously suffering from a dire disease. His complaints were three—yellowness of the skin, abdominal discomfort, and hiccough. The history obtained was marked by its brevity and was barren of assistance in accurate localisation of the primary condition. Three months seemed to cover the time that he was sensible of change in himself. For that period he had been troubled with indigestion of the flatulent variety, discomfort being almost continuous, though occasionally he was disturbed by paroxysms of pain coming on half an hour after food. Water-brash was not infrequent, whilst less often he vomited a trifling amount of what he called "darkish-coloured fluid." From the outset he had lost weight steadily, though more rapidly latterly. A month ago he noticed his urine getting darker, his motions paler, and then his skin became yellow, deepening rapidly in hue, and without remission. His past personal history revealed little, and for the last 12 years he had apparently been rigidly temperate in all things. His wife, however, told us that three years ago he had suffered from an attack of somewhat severe abdominal pain, localised to the upper part of the abdomen, not specially to one side, colicky in nature, unaccompanied by jaundice, and he had not passed anything abnormal by the rectum.

On admission the temperature was 100° F., but rapidly fell to normal, and remained so until the end. The pulse was 80 per minute, regular, though feeble. Frequent hiccough disturbed the patient and the examination. The abdomen was hollow, the skin of the lower part striated, and there was no distension of veins. There was some slight tenderness in the right hypochondrium; clinically the liver was neither enlarged nor diminished. The gall-bladder was not palpable, nor were there signs of fluid in the peritoneal cavity. The stomach was not dilated, and peristaltic action of this organ or of the intestines was not seen. Rectal examination was negative. Examination of the urine revealed the presence of bile, some albumin, and numerous granular and epithelial casts. Leucin and tyrosin were not found. Neither the fæces nor the urine gave evidence of pancreatic insufficiency.

A diagnosis of "obstruction of the common bile-duct by malignant disease" was made, there being insufficient evidence to implicate any organ as the primary seat. Dr. Barrs hesitated in making a diagnosis of either primary disease in the duct itself or of the duodenum. From the moment of admission the patient rapidly got worse, and the illness ended fatally four days later, on July 18th.

Post-mortem examination.—External appearances: The integuments and conjunctivæ were stained an intense golden-yellow colour. The little toes were markedly dorsiflexed and adducted, so that they came to overlap the next digit in each instance.

Internal examination: On laying open the intestine a tumour was found in the first part of the duodenum, commencing 1½ inches from the pylorus and extending along the gut for a distance of about 2 inches. The growth was 3 inches in length, and almost completely encircled the viscus, leaving only ½ inch of the anterior wall uninvolved. It was ulcerated in the centre, while the rest of the surface presented a honeycombed necrotic appearance, save at the extreme margin. The bile papilla and opening of the common duct were situated about an inch below the tumour, and appeared normal. Between the papilla and the lower margin of the growth, and immediately abutting on the latter, there was a diverticulum about ¾ inch in depth, and just wide enough to admit the tip of the little finger. The common duct, where it lay in relation to the duodenal tumour—that is, about an inch below the junction of the cystic and hepatic ducts—was itself the seat of an annular new growth completely encircling the lumen, and apparently directly continuous on its deep aspect with the duodenal growth. Above the tumour there was marked dilatation of all the bile passages, gall-bladder, common duct, cystic and hepatic ducts, but that the obstruction was anatomically incomplete was shown by the ease with which a probe could be passed through the stenosed portion of the tube, and so through the remaining portion of the common duct to the intestine. The dilated bile passages, both intra- and extra-hepatic, were filled with a thin, slightly bile-stained, mucoid fluid, while their walls presented a curiously pitted appearance.

The liver on section was soft and fatty looking, and showed a considerable degree of bile-staining, especially around the dilated hepatic ducts. There were several secondary deposits of new growth, of which the largest, about the size of a hazel-nut, was necrotic and bile-stained in the centre. The pancreas presented no evidence of new growth, but several of the lymph glands in relation to it were the seat of secondary deposits. The spleen was fibrous but of normal size. There was an accessory spleen the size of a hazel-nut immediately above and in front of the left adrenal. The latter glands were of very large size, and the brown zona reticularis was unusually prominent. The kidneys, which were markedly bile-stained, were of small size, and were embedded in a very large amount of

[1] American Journal of the Medical Sciences, 1904, vol. cxxviii., p. 824 (Bibliography)

fat. On section, cortex and medulla were badly differentiated, although the former was not unduly narrow. There were several small puckered depressions on the surface of both organs, clearly the result of a starvation fibrosis.

The lungs were emphysematous, congested, and somewhat œdematous, and there were old pleural adhesions on the left side. The aorta was bile stained and contained several atheromatous patches. The heart contained large agonal thrombi extending into the aorta and pulmonary artery on each side. The mitral valve showed marked thickening of the cusps and of the chordæ tendineæ, but there was no stenosis. The other viscera, including the stomach, presented no features worthy of note.

Microscopic examination.—Various portions of tissue were taken for histological investigation as follows: (1) Duodenal growth, (2) growth in common duct, (3) nodule in liver, (4) lymph gland deposits, and (5) pancreas. The general structure of the tumour is definitely cancerous, and for the most part the type is that of an adeno-carcinoma. This is best seen in the case of the lymph gland deposits and in the liver nodules, where the acini are large and well developed, being separated in the more central parts by a considerable amount of fibrous stroma. In the duodenal and common duct tumours, however, there is well-marked evidence of anaplasia, a reversion to a spheroidal cell and mixed cell type of growth without acinar formation. In these situations the cells show great variation in size and shape, and not a few are possessed of multiple nuclei, but mitotic figures are comparatively few in number. Many of the cancer cells, especially in the larger alveoli, show degenerative changes, both mucoid degeneration and varying degrees of necrosis. There are areas of massive necrosis in the centre of the duodenal tumour, in the larger liver nodules, and in the glands related to the pancreas. The duodenal tumour is fairly well defined at the margin, but it has extended through the whole thickness of the bowel wall, and is in direct continuity with the deep aspect of the common duct growth. The histological appearance of these two tumours is precisely similar, in our opinion strongly indicating that one is secondary to the other. The pancreatic tissue, while not actually invaded, is in direct contact with the lymph gland deposits. It presents a normal appearance, with large and prominent islets of Langerhans. The liver is the seat of advanced cloudy swelling, proceeding in parts to actual necrosis of the hepatic cells. Where it surrounds the carcinomatous nodules the liver tissue is compressed and infiltrated by the new growth.

Comment on the clinical diagnosis of this case need not be laboured by conjuring up fanciful possibilities, for the problem unravels itself up to a point, beyond which we enter upon the domain of pure speculation. That the trouble did not lie in the head of the pancreas was fairly obvious, for the gall-bladder was not distended, and signs of pancreatic insufficiency were wanting. A diagnosis of enlarged glands in the portal fissure secondary to disease in the stomach did not meet the facts of the case, owing to the absence of physical signs in that organ and absence of ascites. Primary malignant disease in the first part of the duodenum, a diagnosis of which is dependent upon the signs of pyloric obstruction, was equally unsatisfactory as a solution of the problem. Lastly, primary malignant disease of the common bile-duct as the only cause revealed obvious shortcomings, and however impatient one might be of ignorance, the only logical outlet from the *impasse* was, as Dr. Barrs pointed out, to wait and see which of the two latter conditions post-mortem examination would show to be the cause of the man's death.

From the pathological standpoint the chief problem for solution was, Which was the primary growth—that in the duodenum or that in the common duct? The possibility that we had to deal with two separate tumours of independent origin was almost too remote to be worthy of consideration, but it may be pointed out here that not only were the tumours in this case precisely similar in histological structure, but they were directly continuous with one another. After careful consideration we have come to the conclusion that the duodenal tumour was the primary, and for the following reasons: 1. The gastric symptoms were of three months' standing, whereas the jaundice had only been in existence one month. 2. The type of tumour was very suggestive of a carcinoma of bowel origin. 3. There were secondary deposits in the liver and lymph glands, an event which occurs more frequently and earlier in duodenal cancers than in those of common duct origin. 4. The duodenal tumour was more extensive and the seat of more advanced degenerative changes than the common duct growth.

That the tumour was of a highly malignant character was shown both by the rapidity with which it killed the patient and by the presence of hepatic and glandular dissemination. The histological characters, showing reversion to a spheroidal cell and mixed cell type of growth, also bore this out.

We are indebted to Dr. Barrs for permission to publish the above notes.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.[1]

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THE Wassermann reaction is not a complement fixation reaction brought about by the interaction of a true specific syphilitic antibody in the patient's serum with the syphilitic spirochætes. The antigenic value of the antigen used in the original reaction has no relationship to the richness of the organ in spirochætes—in fact, an emulsion of spirochætes as antigen gives only very feeble complement fixation, if any, with a syphilitic serum. The only other possible way in which the original antigen as used by Wassermann might be superior to others derived from non-syphilitic sources might be that the organ from which the antigen is made contained products of the action of the spirochæte, which might cause complement fixation with a syphilitic serum. If this were so the antigenic value should be directly

[1] A paper read before the Pathological Section of the Royal Society of Medicine on Feb. 3rd, 1914.

proportional to the spirochæte content, which it is not. For this reason the original Wassermann reaction has no claim for superiority over any subsequent modifications.

We consider that the antigenic value of an antigen depends on the degree of autolytic degradation that it has undergone before extraction. As the original Wassermann antigen was extracted from organs which frequently showed various degrees of autolysis, this antigen was more frequently antigenic than those used in later modifications. By reference to the following table (Table I.) it will be seen that a syphilitic fœtus liver rich in spirochætes only acted as a good antigen when it had undergone a certain degree of autolytic degradation. We were fortunate in being able to obtain a syphilitic fœtus which died during delivery, so that we could obtain a perfectly fresh liver for testing. The fresh organ (1) showed practically no antigen value; the same organ (2) when autolysed showed a good antigenic value. The rest of the table shows that the autolysed condition of the organ and not its spirochæte content confers the antigenic value on extracts made from it. All the modifications introduced in the Wassermann reaction show that the trouble throughout has been to obtain a powerful reliable antigen. In order to get over this trouble the latest modification, the addition of cholesterin, has been introduced. Now cholesterin cannot act as an antigen; it can only act by inhibiting the action of complement, and thus mask the complement which is left unbound by the feeble antigen.

As a result of our investigations we have come to the conclusion that not only is it unnecessary but unsafe to use an anticomplementary antigen, and still more so to add further anticomplementary substances. In the first place, it is easy to obtain with absolute certainty a really powerful antigen for the reaction, free from all anticomplementary substances, so that as little as 0·000003 grm. of this antigen will, in the presence of syphilitic serum, cause complete fixation of the quantity of complement used in the Wassermann reaction. The antigen is a purified phosphatid, having the nitrogen phosphorus ratio, N_1P_1, obtained from an organ *autolysed* at room temperature for 24–36 hours.

Table II. shows that the antigenic value of a phosphatid depends upon the degree of autolysis of the organ from which it is obtained. (The smaller the quantity which contains the unit of antigen the stronger the antigen.) The organs were obtained immediately on the death of the animal, cleaned and minced while still warm, and divided into several parts. One part was dried at once in a current of warm air and desiccated *in vacuo*. The other parts were autolysed at room temperature for 18, 24, 36, 48, and 72 hours. The N_1P_1 phosphatids were obtained from each portion, were purified until they were no longer anticomplementary or hæmolytic, and were put up at 3 per cent. in absolute methyl alcohol. From the methyl alcohol solution a 10 per cent. suspension was made in normal saline.

Now, looking at Table II. we see that the fresh organ phosphatids possess no antigenic properties. In 18 hours these properties begin to develop, they are at their maximum from 24–36 hours and then begin to wane. All the phosphatids can act as good antigens provided they are extracted from suitably autolysed tissues. The only reason for using the N_1P_1 fraction is the ease with which it can be handled.

TABLE I.—*Showing the Dependence of Antigenic Value on Autolytic Degradation and not on Spirochæte Content.*

No.	Description of antigen.	Hæmolytic titre.	Anticomplementary to 1 unit.	Antigenic to 2 units strong syphilitic serum.	Antigenic to 2 units weak syphilitic serum.	Antigenic to 2 units cured syphilitic serum.	Sections showed.
		c.mm.	c.mm.	c.mm.	c.mm.		
1	Syphilitic fœtus liver; child died during delivery. Fœtus frozen, liver extracted 12 hours later.	500	300	Slight (300)	?	*Nil.*	Numerous spirochætes.
2	Same liver, autolysed three days, room temperature.	400	100	40	Slight (60)	,,	,,
3	Liver (congenital syphilis) fairly fresh.	500	300	100	Slight (100)	,,	,,
4	Liver (congenital syphilis), slightly macerated fœtus.	400	60	30	60	,,	Few spirochætes
5	Liver (congenital syphilis), fairly fresh when obtained, autolysed for three days, room temperature.	400	80	80	100	,,	,,
6	Liver (congenital syphilis), fœtus showing maceration; liver very autolysed.	300	80	60	100	,,	Numerous spirochætes.

The organs were first dried in vacuo and finely powdered. A 1 in 10 suspension was made in normal saline. This was shaken mechanically for 6 hours and centrifuged. The clear supernatant fluid was used as the antigen.

TABLE II.—*Showing that the Antigenic Value of a Phosphatid depends on the Degree of Autolysis.*

No.	Heart I.		No.	Kidney II.	
1	Fresh.	* Antigenic in—*Nil* (in 500 c.mm.).	1	Fresh.	* Antigenic in—*Nil* (in 500 c.mm.).
2	Autolysed 18 hours.	4 c.mm.	—	—	—
3	Autolysed 24 hours.	2 c.mm.	2	Autolysed 24 hours.	2 c.mm.
4	Autolysed 36 hours.	2 c.mm.	—	—	—
5	Autolysed 48 hours.	8 c.mm.	3	Autolysed 48 hours.	10 c.mm.
—	—	—	4	Autolysed 72 hours.	30 c.mm.

* Antigenic in = complete fixation of 2 units of complement in the presence of 100 c.mm. of inactivated syphilitic serum with this quantity of the phosphatid suspension.

The Fallacy of Using Anticomplementary Substances for Increasing the Delicacy of the Reaction.

We have been investigating the means of increasing the delicacy of the Wassermann reaction and have come to the conclusion that the addition of anticomplementary substances besides being unnecessary introduces a fallacy in the reaction. As we shall show next, the magnified complement inhibition which occurs when an anticomplementary substance like cholesterin is added to syphilitic serum and antigen, is not characteristic of syphilis

as is stated by Browning and MacKenzie, Sachs, and others. It also always occurs when an anticomplementary substance, like cholesterin, is added to an already anticomplementary mixture. First of all, Table III. shows what we have called the "anticomplementary adjuvant phenomenon." Experimenting with the serum of a non-syphilitic corpse (1) 40 c.mm. of this is found to be anticomplementary to less than $\frac{1}{4}$ of a unit of complement. (2) Now 80 c.mm.—i.e., twice this amount—should be anticomplementary to less than $\frac{1}{2}$ a unit, but when tested it is found to be anticomplementary to $1\frac{1}{4}$ units. (3) We have 200 c.mm. of a cholesterin suspension; this is anticomplementary to less than $\frac{1}{4}$ of a unit. (4) Now 400 c.mm. of the cholesterin should be, at this rate, anticomplementary to $\frac{1}{2}$ a unit, but when tested it is found to be anticomplementary to more than $\frac{3}{4}$ of a unit. (5) Now if we take a mixture of 40 c.mm. of corpse serum and 200 c.mm. of cholesterin we might expect it would be anticomplementary to less than $\frac{1}{4}$ a unit, but when tested we find it anticomplementary to more than $1\frac{1}{4}$ units. Thus, when dealing with a mixture of substances of very slight anticomplementary power, we get a fixation of complement considerably greater than could possibly be expected from estimating each separately, and which would in a Wassermann reaction have been regarded as indicating a slight positive reaction.

In Table IV. we see another example of the adjuvant phenomenon, the influence of cholesterin in the Wassermann reaction: (1) shows us a phosphatid antigen which in the quantity used is not anticomplementary; (2) is a Wassermann reaction with a weak syphilitic serum; (3) is the anticomplementary power of the added cholesterin; (4) shows how enormously the addition of cholesterin apparently magnifies the Wassermann reaction (compare 2). So that at first sight it appears that cholesterin has a very remarkable influence on the Wassermann reaction, making a weak serum give a powerful result. Now turning to (5) we have here a normal serum which has been allowed to stand and has developed anticomplementary powers. In the quantity used it will be noticed that this serum inhibits as much complement as (2) (the syphilitic serum and antigen mixture). Now (6) shows that when cholesterin is added to this anticomplementary normal serum we get as much fixation as occurred in (4). (7) and (8) show that there is no increase in complement inhibition on adding the anticomplementary serum to a non-anticomplementary antigen. The serum in (5) is anticomplementary to $1\frac{1}{4}$ units, the cholesterin to 1 unit. The mixture of these two would be expected to be anticomplementary to $2\frac{1}{4}$ units; in reality it is to more than 5 units—that is, more than double what is expected.

Thus, we see that cholesterin merely magnifies any anticomplementary effect, whether already present or induced by the Wassermann reaction. It is owing to the failure to appreciate this "*anticomplementary adjuvant phenomenon*" that people who use anticomplementary antigens are continually reporting positive Wassermann reactions with anticomplementary sera from

TABLE III.—*Showing the Anticomplementary Adjuvant Phenomenon.*

No.	—	Complement. Units	1	1¼	1½	1¾	2	2¼	2½	Anticomplementary power.	
		Quantity in c.mm. ...	20	25	30	35	40	45	50	Calculated.	Proved.
1	Serum Corpse E	40 c.mm.	VMH	C	C	C	—	—	—	—	Less than ¼ unit.
2	Serum Corpse E (as 1)...	80 c.mm.	SH	SH	SH	SH	MH	MH	C	Less than ½ unit.	More than 1¼ units.
3	Suspension of cholesterin.	200 c.mm.	VMH	C	C	C	—	—	—	—	Less than ¼ unit.
4	Suspension of cholesterin (as 3)...	400 c.mm.	SH	SH	MH	MH	C	C	C	Less than ½ unit.	More than ¾ unit.
5	Serum Corpse E (as 1) + cholesterin (as 3)... ...	40 c.mm. 200 c.mm.	SH	SH	SH	MH	MH	MH	C	Less than ½ unit.	More than 1¼ units.

The anticomplementary substances and complement were added together and the bulk brought up to 2 c.c. with normal saline. The mixture was incubated for 1 hour and then 1½ units of amboceptor and 1 unit of red cells added. C = Complete hæmolysis. VMH = Very marked hæmolysis. MH = Marked hæmolysis. SH = Slight hæmolysis.

TABLE IV.—*Showing the Influence of Cholesterin in the Wassermann Reaction.*

No.	Complement { Units ... Quantity ...	1 20	1½ 30	2 40	2½ 50	3 60	3½ 70	4 80	5 100	6 120	Units of complement interfered with.
1	Phosphatid antigen	C	C	C	C	C	C	C	C	C	0
2	Phosphatid antigen (as 1*) + syphilitic serum	SH	MH	VMH	C	C	C	C	C	C	1½
3	Phosphatid antigen (as 1) + cholesterin emulsion	SH	MH	C	C	C	C	C	C	C	1
4	Phosphatid (as 1) + cholesterin (as 3) + syphilitic serum (as 2)	O	O	O	O	O	O	O	SH	SH	More than 6.
5	Anticomplementary normal serum ...	SH	MH	VMH	C	C	C	C	C	C	1½
6	Anticomplementary normal serum (as 5) + phosphatid antigen (as 1) + cholesterin (as 3)	O	O	O	O	O	O	O	SH	SH	More than 6.
7	Anticomplementary normal serum (as 5) + phosphatid antigen (as 1)...	SH	MH	VMH	C	C	C	C	C	C	1½
8	Anticomplementary normal serum (as 5) + another phosphatid antigen (not anticomplementary)...	SH	MH	VMH	C	C	C	C	C	C	1½

* (as 1) = in the same quantity as in Experiment 1. C = complete hæmolysis. VMH = very marked hæmolysis. MH = marked hæmolysis. SH = slight hæmolysis. O = no hæmolysis.

corpses, after anæsthetics and hypnotics, and in scarlet fever, &c.

We would not for a minute dispute the fact that cholesterin has been of undoubted value in enabling a reading to be obtained by magnifying the slight degree of complement fixation occurring when a syphilitic serum is exposed to a weak antigen, but the addition of cholesterin is the confession of a weak antigen and is absolutely unnecessary if the antigen used is sufficiently powerful. In addition it introduces sources of error, it may be only in a small percentage, which the use of a powerful non-anticomplementary antigen avoids. Some cases are apparently positive when they should be negative, the result being purely due to the summation effect of two pre-existing anticomplementary factors. On the other hand, others are missed, the failure to get a positive result being due to the feeble antigenic power of the antigen used. The complement fixation here is so small that it is not appreciably magnified by the adjuvant effect of the cholesterin.

In conclusion: 1. It is always possible to have an extremely powerful antigen which will keep its power unaltered for months. 2. It is possible to have an antigen which is not anticomplementary, so that summation and adjuvant phenomena cannot play a part in the reaction. 3. The use of cholesterin and other anticomplementary substances in antigens for the Wassermann reaction is not only unnecessary, but introduces a very serious source of error.

Our method of increasing the delicacy of the reaction is: 1. To diminish the amount of complement used to 1½ times only, that which will cause complete hæmolysis of the system adopted. 2. To use large amounts, half a cubic centimetre or more, of inactivated syphilitic serum. 3. To use 50 to 100 units of the antigen. By this method purely anticomplementary phenomena do not play a part. Anticomplementary effects being rendered obvious in the control, true complement fixation, even when minimal, can be readily demonstrated. In this way (1) cases which would otherwise give a slight reaction, so slight as to be doubtful on the ordinary reaction, give a full fixation; (2) cases which otherwise give a negative can be made to give a full reaction, thus bringing in a large number of latent cases; and (3) no fallacious results with other diseases have been obtained.

DECOMPRESSION OF THE BRAIN IN INTRACRANIAL HÆMORRHAGE:

THE VALUE OF THE OPERATION IN CASES THE OUTCOME OF ACCIDENT OR DISEASE.[1]

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I propose dealing with the question of decompression from the point of view of injury only, and that also from a clinical aspect. The wording of the subject for discussion is sufficiently clear. We are not asked in any way to express our views with regard to the desirability of operation for such localised hæmorrhages as middle meningeal hæmorrhage, subdural hæmatoceles, &c. The subject matter is strictly confined to a discussion of the advantages that may be obtained by decompression for the *average* case of head injury, for doubtless you will agree with me when I state that the average case of head injury is lacking in the essentials of localisation, all localising symptoms being obscured or completely lost in the general clinical picture of concussion or compression.

We are asked, therefore, to discuss decompression in relation to concussion and compression, and we can at once exclude all the minor grades of concussion. They are obviously of such a type as to require no operative treatment whatsoever. We are thus left with the more serious and prolonged cases of concussion and cases of definite compression. Taking the former type first—the grave concussion cases—my experience tells me that the mortality in such cases is exceedingly high, the outlook most grave, and that the majority die within 36 to 48 hours, without evidencing the slightest attempt at reaction, with a markedly subnormal temperature, a rapid pulse-rate and a lowered blood pressure, the latter symptoms being referable to the cardio-vascular depression.

Now, insomuch as the prognosis in these cases is so grave and that of compression is relatively hopeful, I am of opinion that we ought to adopt heroic measures, utilising every means in our power to force on a stage of reaction, more especially by the adoption of rectal or intravenous infusion, even at the risk of so raising the blood pressure as to bring on fresh bleeding within the skull. If the stage of reaction *can* be induced the patient will probably pass from the stage of profound concussion into that of definite compression, a condition affording some hope of a favourable issue if decompression measures are carried out at the right time and in the right manner. I think that such cases may be included amongst those requiring decompression.

Still, it is those well-defined cases which are, so to speak, compressed at an early stage which so urgently require operative treatment, cases in which the patients, after passing through the initial stage of concussion, common to all cases of head injury, exemplify the more typical symptoms of compression within a few hours of the accident. There can, I think, be but little doubt that such cases urgently demand decompression. For the purpose of argument, let us take the symptom-complex of well-developed compression, the so-called "manifest" stage. Here I quote from Kocher: "There is widespread capillary anæmia. The medulla is markedly affected. The period of vaso-motor regulation has set in with its high blood pressure, and this, with its vagal quality, gives the pulse its bounding character. The rise in blood pressure shows a definite rhythm. There are also rhythmic alterations in the size of the pupils, with alternate increase and decrease in the depth of stupor, so that the up-wave causes the patient to moan, become irritable, and thrash about, whilst the down-wave sees him completely comatose. The pulse is markedly affected, the respiration becomes rhythmic and Cheyne-Stokes in character, and the discs evidence pronounced choking. All reflexes are abolished, cyanosis is extreme, and respiration snoring."

This is the picture of "manifest" compression, a graphic illustration of the fight that is being put up by the vital centres against the increased, and perhaps increasing, intracranial pressure, a struggle for existence which will almost certainly terminate against the patient unless all possible reinforcements are brought to his aid. Our general attitude towards this state of affairs is inexcusable. We

[1] A paper introductory to a discussion on Decompression of the Brain at the Medical Society of London on Feb. 9th, 1914.

stand by and do nothing, with the almost inevitable result that the patient passes into the paralytic stage, a stage characterised by increasing rapidity of the pulse-rate, a steadily falling blood pressure, increasing coma, muscular relaxation, and respiratory paralysis.

In fatal cases definite evidence is always to be obtained as to the pathological conditions leading up to compression, hæmorrhages in relation to the membranes, laceration of the brain, and cerebral œdema, and it is clear that it is the increasing intracranial pressure which induces the compression symptoms. Now Leonard Hill's experiments showed that a very slight increase of intracranial tension, anything over 5 per cent. of the intracranial capacity, will suffice to bring about these compression symptoms. Very little will induce compression, and very little will relieve it when present. Take, for example, a case of cerebral contusion with secondary spreading œdema. The cerebro-spinal tension and intracranial venous pressure are practically equal under normal conditions, but in the case in question the venous engorgement and the consequent increased intracranial venous pressure is at once followed by a transudation of fluid from the veins into the meshwork of the pia-arachnoid, into the cerebral substance and into the subdural space. Such excess of fluid is found in all cases, whether at the operation or in such fatal cases as come to necropsy. A decompression operation, even if it fails to bring to light the existence of an extradural or subdural extravasation or area of brain laceration, will at any rate allow of the escape of some of the fluid, will diminish the degree of compression in direct proportion to the amount of fluid escaping, and will allow of time for the recovery of the medullary centres.

I think it must be accepted, both from the theoretical and clinical points of view, that decompression is urgently demanded in suitable cases, where the temperature is steadily rising, where unconsciousness is deepening, where the blood pressure is high and the pulse-rate slow. This is the critical time in the case, and this is the moment at which decompression should be carried out. To wait longer courts disaster. To decompress a patient in the later or paralytic stage of compression, when the pulse-rate is increasing, the blood pressure falling and respiration failing, is an unsatisfactory method of treatment. Still, it is quite justifiable because by the decompression operation some intracranial hæmorrhage may be discovered and the tide thus turned in favour of the patient. Such operations, however, are more exploratory than decompressive.

The value of decompression being acknowledged, I would raise the question as to the decompressive assistance which may be obtained by *lumbar puncture* and *venesection*, either by themselves or in conjuction with a decompression operation.

First, with regard to *lumbar puncture*. In my opinion it is utterly useless for the relief of compression which is dependent on intracranial injuries, though repeated time after time. In addition, there is a positive danger that the sudden escape of cerebro-spinal fluid and blood may lead to the medulla being forced down into and "corked up" in the foramen magnum, with immediate disastrous results. Such an accident not infrequently happens when lumbar puncture is carried out for neoplasms of the brain, and I have seen the same disaster occur in traumatic cases. On the other hand, I consider that considerable benefit may be derived from *venesection*, both in mild cases of compression when carried out alone, and in the more serious cases when utilised in conjunction with decompression operations. The benefits derived, unquestionable from my personal experience, are in all probability dependent on the reduction of the intracranial venous pressure and the consequent diminution of the degree of cerebral œdema.

Some decompression operation being decided on, what is the best method? There are two chief operations, *cerebellar decompression* and *subtemporal decompression*. In comparing the relative advantages and disadvantages of these two methods, it is necessary to take into consideration the critical condition of the patient, and I think that the method chosen should fall into line with the following desirable features:—

1. Insomuch as the vital centres are in a most unstable position—more especially the respiratory centre, which almost invariably gives out first—the operative position should be one in which there is as little disturbance of respiratory function as is possible. In other words, it is of importance that the patient should be on his *back*.

2. The *site* chosen for the operation should be a convenient one for the surgeon, so that the attack can be carried out deliberately.

3. *Hæmorrhage* should be capable of control during the operation. The sudden loss of any quantity of blood will imperil the action of the vagus and vaso-motor centres, both of which are in a position of considerable instability.

4. An *area* should be chosen where the skull is thin, so that the trephining and enlargement of the gap may be carried out expeditiously and with the least disturbance to the patient.

5. The area "*attacked*" should be a "*likely*" area, one where hæmorrhage in relation to the membranes or where brain laceration is likely to be found.

6. The *region* of brain exposed should be a "*silent*" area, for the sudden relief of intracranial pressure may lead to such protrusion of the brain that disastrous results will ensue in the event of the motor area or cerebellum being involved.

7. The *relief* of intracranial pressure should be *gradual* in character, not sudden and violent.

Taking these factors into consideration with respect to *cerebellar* decompression, it is clear that this particular method is lacking in many essentials. Admittedly, the operation is conducted in close relation to the medullary centres, with proportionate pressure relief, but the relief is *too drastic*. Again, the position required for the operation is bad for the patient and most inconvenient for the surgeon. Respiratory failure is always to be feared in cerebellar operations, and hæmorrhage may be profuse and difficult of control. Altogether this operation is not to be commended. In previous years I regarded it as the operation of choice and carried it out on several occasions. I doubt, however, whether I have ever saved a life by cerebellar decompression. I have abandoned this operation.

On the other hand, take *subtemporal* decompression, the intermusculo-temporal method of Harvey Cushing. This particular operation fulfils all the requirements of a satisfactory decompression. The patient is on his back, and respiration is not interfered with. The site is a convenient one for the surgeon, and hæmorrhage

may be kept under control, first by pressure over the superficial temporal artery, and secondly by quiet and deliberate methods of operation. In addition, the skull is thin, readily trephined, and readily cut away according to requirements. Consider now the relation of the operation to "likely" and "silent" areas. It is conducted over the territory of the middle meningeal artery, and injuries of this vessel are of frequent occurrence though they may not, and usually do not, give rise to the so-called typical symptoms of a middle meningeal extravasation. Again, the region of brain exposed is the front aspect of the temporo-sphenoidal lobe, an area of brain lacerated with greater frequency than any other part of the cerebrum or cerebellum. In consequence, I regard subtemporal decompression as the method of choice.

With regard to the *side* on which the operation should be conducted, there can be no question that in all doubtful cases—that is to say, in cases devoid of all localising symptoms — the decompression should be carried out on the *right* side, thus avoiding any possibility of including in the hernial protrusion the motor speech area of Broca. I have a clear recollection of one case in which a left-sided operation was conducted rather too high, and which resulted in well-marked motor aphasia, fortunately of a temporary character only. In all cases, however, one is guided in the choice of side by the site at which the blow was applied, by an examination of the fundus, and by a critical investigation into the temperature on the two sides of the body. Thus, if the blow was received in the right occipital region it is probable that the left temporo-sphenoidal lobe is the site of the laceration—laceration by *contrecoup*—and the operation is there conducted. Again, if there is any marked congestion of the discs the operation is carried out on the side on which the change is most pronounced. Finally, in the event of any marked difference in the temperature on the two sides of the body, the decompression is made on that side which shows the greater elevation of temperature.

Blood pressure records taken during the course of the operation will enable the operator to appreciate whether a sufficient relief has been attained. If not, the same operation is carried out on the opposite side as well.

There may be some difference of opinion with respect to the *size of the opening* which it is necessary to make in the skull, but my experience tells me that, within certain limits, the larger the opening the greater the degree of decompression. The comparative small size of the opening obtained in a subtemporal operation has been regarded as a point against this particular operation. I feel sure, however, that, by forcible retraction of the temporal muscle, one is enabled to obtain an opening of sufficient size, it being borne in mind that the decompression should be gradual, not violent.

With regard to the desirability of *opening the dura mater*, whatever difference of opinion may be existent with respect to this course in the palliative treatment of neoplasms of the brain, there can be no question that the membrane must be opened, and that freely, in all decompressions for injury. It is only by such means that a real decompression may be brought about, blood and cerebro-spinal fluid draining away into the tissues of the temporal region, where, under favourable circumstances, they are reabsorbed.

Now, with regard to the *technique of the operation*. Shaving of the head may be confined to a limited area, ample margin, however, being allowed for the conduction of the operation. The skin is sterilised with iodine, after which the head is covered with a sheet of gauze four layers thick, space being allowed for the administration of the anæsthetic if such should be required. During the operation blood-pressure records should be taken every few minutes, following the various stages of the operation, the assistant reporting to the surgeon the changes that may take place.

Efficient *hæmostasis* is of great importance, for reasons previously stated. Whilst an assistant compresses the superficial temporal artery as it passes over the base of the zygoma an incision is made through gauze and skin, which commences one inch behind and above the external angular frontal process, curves along the temporal crest, is then directed downwards towards the zygoma, and terminates immediately in front of the tragus of the ear. This incision falls short, at its commencement, of the external angular frontal process with the object of avoiding that branch of the facial nerve which passes forwards to the anterior belly of the occipito-frontalis muscle. The incision, lightly made, includes the skin and subcutaneous tissues only, the various branches of the superficial temporal artery being seized by the assistant as soon as they are exposed or divided. By adopting these precautions the total amount of blood lost is quite inconsiderable.

The flap—comprising skin, subcutaneous tissues, and the superficial temporal artery—is turned down towards the zygoma. At the base of the flap care must be taken to avoid wounding the artery, this vessel being responsible for the nutrition of the flap. The temporal fascia is now exposed. It is also turned down as a flap, the line of incision falling immediately short of the skin incision. The temporal muscle, now exposed, is split in the direction of its fibres, in the centre of the field, from above downwards, and forcibly retracted on either side.

For *trephining* it is necessary to have such an instrument as will work expeditiously, with the least possible danger of damage to the underlying structures. For example, an injury to the middle meningeal artery during the process of trephining complicates the operation and adds needless risk to the procedure; the patient is not in a condition to stand any serious hæmorrhage, such as may well occur before the bleeding points can be secured. The older hand-trephine, though fairly safe in experienced hands, always presented the disadvantage in that the artery and dura mater were liable to injury. In this modern instrument there is no such danger. It is stated, and I think truly so, that you could not injure the dura mater if you tried. The mechanism of the trephine is such that it ceases to work, or requires excessive force to make it work, so soon as the resistance is overcome —that is to say, as soon as the internal table is perforated. It presents one disadvantage only—the trephine hole is small. With suitable bone-cutting instruments, however, this is easily overcome.

The trephine is placed over the angle between the anterior and posterior branches of the middle meningeal artery. In spite of such precautions, however, it is not always possible to avoid an immediate exposure of the main trunks, a fact which appears at first sight as a disadvantage to

this operation in general. As previously stated, however, there is but little chance of actually wounding the vessel under modern methods of trephining.

After perforation of the bone the dura mater is stripped away from the under surface of the bone and the gap enlarged with craniectomy forceps, of which no better type exists than Horsley's parrot-billed forceps. They are admirable instruments so long as the operator is contented with "small bites at the cherry," small fragments being removed at each time. The bone is cut freely away, downwards to the base of the skull, forwards and backwards so far as the retracted temporal muscle permits, whilst in the upward direction the process is more sparingly conducted, thus avoiding any possibility of including Broca's area and the lower motor areas in any hernial protrusion that may ensue after the opening of the dura mater. The gap in the bone should be oval in shape, about 3 by 2 inches, the long axis in the antero-posterior direction and parallel to the line of the temporo-sphenoidal lobe.

Before *opening the dura mater* it is necessary to underrun and ligature the various branches of the middle meningeal artery on either side of the lines proposed for dural section. The membrane is opened by crucial incision, all possible care being taken to avoid injury to the underlying congested cortical veins. The brain is probably at high pressure and at once bulges out when the membranous capsule is incised.

The *brain exposed*, the temporo-sphenoidal lobe, may be lacerated and obscured by blood clot, it may be œdematous or normal in appearance. In the first case, when lacerated, all blood clot is washed away by low-pressure irrigation with saline solution at a temperature between 110° and 115° F., after which a small rubber drain is inserted so that the distal end lies in relation to the opening in the skull and dura, the proximal end being brought out between the otherwise approximated temporal muscle and through a special button-hole in the skin. This drain should remain in position for 36 to 48 hours, after which it is shortened day by day.

When the brain is the seat of a spreading œdema or normal in appearance, the dural flaps remain open, the temporal muscle is brought together with a few catgut stitches, the temporal fascia replaced in the best position possible, and the skin sutured with interrupted silk or salmon-gut stitches.

With regard to after-treatment, morphia is of the greatest value and should be administered freely. It keeps the patient quiet and lessens the degree of shock.

In addition to the *advantages already claimed* for the subtemporal method of decompression there are others: the scar is inconspicuous, concealed by the hairy scalp, the protrusion of the brain is protected and restrained by the temporal muscle and fascia, receding in direct proportion to the recovery rate of the patient, and the gap in the skull is adequately protected by the overlying muscle and fascia.

So far as *results* are concerned, it must be borne in mind that we are dealing with the most severe lesion that the human body can be subjected to, and, in consequence, that a high recovery rate is not to be expected. The surgeon will meet with many disappointments, but, from my own experience, I would urge that they are more than compensated for by certain brilliant results. I shall not trouble you with statistics. Such tables are always full of fallacies, and errors are especially liable to be included in cases of this particular nature. Suffice it to say that the average mortality in head injuries, estimated at 50 per cent., may be reduced 10 or 15 per cent. by decompressions carried out at the right time and in the right manner.

Finally, there is another point to consider—the after-history of these cases of head injury. A large proportion of those that recover without operation suffer from the many distressing remote effects, such as headache, epilepsy, insanity, &c., and, in consideration of the pathological conditions regarded as responsible for such developments, I think it fair to argue that an exploratory decompression operation carried out at the right time will tend towards the reduction in number of such disastrous results.

Montagu-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ARTERIO-VENOUS ANEURYSM FOLLOWING OSTEOTOMY FOR GENU VALGUM.

BY W. MANSON FERGUSSON, M.D., CH.B. ABERD., L.M. ROT. HOSP. DUB.,
SURGEON, CHALMERS' HOSPITAL, BANFF.

Arterio-venous aneurysm or aneurysmal varix following an osteotomy of the femur for genu valgum must be comparatively rare, and that fact, along with the rather remarkable recovery which the case made after somewhat heroic treatment, has prompted me to record it.

A child, aged 2½, was admitted into Chalmers' Hospital, Banff, on Dec. 17th last with a note from her medical attendant requesting her admission "for immediate operation." I was informed also that the patient had been operated on for genu valgum some six weeks previously at a hospital attached to a medical school and had been discharged cured. For the week previous to admission she had been very fretty and running a slight temperature and complaining of pain in her knee.

On admission the temperature was normal and the pulse-rate was 136. The child looked very ill and would hardly allow the knee to be touched, so great was the pain. The left knee was twice the size of the right, the swelling being fairly uniform but rather more to the inner side of the joint. Fluctuation could be made out, but there was no pulsation felt. The superficial veins were enlarged over the inner side of the swelling, and there was a linear scar 1½ inches long right in the middle of the thigh immediately above the joint. I resolved to cut down upon the swelling, being inclined to think that the condition present was one of suppuration and that the reason the temperature was normal was that the child had got fairly well chilled during the railway journey to hospital.

Dr. J. C. Galloway administered an anæsthetic and I cut down upon the swelling midway between the old scar and the adductor tubercle. After getting through the skin and subcutaneous tissues I came upon a tense tissue, like the fascia lata of the thigh, between the sartorius and the vastus internus. I put on a tourniquet and then incised

this swelling and found it to be an arterio-venous aneurysm formed by the popliteal vein and getting its arterial blood through a hole in the inner side of the popliteal artery. The sac was rather bigger than a turkey's egg and had exerted such pressure upon the femur that an area of the size of a shilling on the inner surface of the bone was quite dark in colour and devoid of periosteum. The hole in the artery was below the level of origin of the anastomotica magna artery and the superior articular arteries, so I ligatured the artery immediately above the hole and ligatured the vein at a point before it became enlarged. I then cut away the redundancy of the sac wall and left the wound open with a gauze drain down to the bare portion of the femur. The limb was bandaged to a splint and kept elevated for a few days, but at no time did the circulation of the foot show sign of failing. The child improved daily in appearance and rapidly became ready to be discharged with a perfectly sound leg.

If the child had been in more expert hands the procedure would probably have been vessel suture, but as I had never done any vessel suture and had no fine enough silk ready I had to have recourse to ligature of the vessels entering into the formation of the aneurysm, happily with good results.

Banff.

RUPTURE OF THE HEART DUE TO ANEURYSM OF THE MYOCARDIUM.

BY FRANK M. HUGHES, M.R.C.S.ENG., L.R.C.P.LOND.

THE subject of this note was a dock labourer, aged 49, who had never had any symptoms of heart trouble, and for the last 15 years had never been under medical treatment. He walked six miles to his work two days before his death, and then did hard work on an oil-tank each day until the third day, when he dropped down dead on the oil-tank.

At the post-mortem examination the pericardium was found to be full of blood clot. In the anterior wall of the left ventricle near the apex was an aneurysm of the size of a walnut, which had ruptured. The aneurysm communicated directly with the left ventricle. Fibrous degeneration of the myocardium at the site of the aneurysm was apparent. There was fatty degeneration of the whole heart muscle. There was no disease of any of the valves, no mesaortitis, and no atheroma in the aorta. The arteries were healthy. The liver, kidneys, and spleen were healthy. There was no evidence or history of syphilis.

The case is of interest in that the man had never suffered any pain or inconvenience with his heart. He had been a hard worker all his life, and had been passed several times as fit for work by a medical man. Also in the fact that there was absolutely no evidence or history of syphilis.

Gravesend.

ROYAL MEDICAL BENEVOLENT FUND.—A general meeting of this Fund will be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Thursday next, Feb. 26th, at 5 o'clock. The annual report will be read and certain formal business transacted. It is hoped that as many as possible of those interested in the work of the Fund and its Guild will take the opportunity of meeting together. There will be no speeches, but tea will be provided.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

The Thyreoglossal Tract.—Drainage in Septic Peritonitis.

A MEETING of this section was held on Feb. 10th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. W. G. SPENCER read a paper on the Thyreoglossal Tract, which appears in full on p. 522.

Mr. HENRY CURTIS read a paper on the Most Efficient Method of Drainage in Septic Peritonitis, and for its prevention in immediate suture of perforated gastric and duodenal ulcers, &c. The object of the paper was to advocate the more general adoption of the methods of drainage taught, if not originated, by the late Mr. Bidwell, modifying the technique, however, according to the method of the author, who exhibited a drainage-tube introducer which obviated theoretical objections in Bidwell's scheme and greatly facilitated rapid introduction of the tube through the rectum, Douglas's pouch, or through the loins, in the case of subphrenic drainage, &c. (For a description and illustrations of this instrument the reader is referred to another page in this issue.) The two principles of efficient drainage for the prevention or treatment of septic peritonitis consisted in: (1) arranging for the escape of the irritating fluid (gastric or duodenal contents, &c., or actual pus) at the lowest point to which it tended to descend, rather than by the up-hill (hypogastric) route, above the pubes, commonly in vogue; and (2) routine subphrenic drainage, to prevent the frequent tendency to the formation of subphrenic abscesses, even when the general peritoneal cavity had been successfully drained after immediate suture of the stomach or duodenum. Such abscesses commonly resulted when extensive adhesions formed between the adjacent edges of the diaphragm and liver, or spleen, so shutting in the very irritating extravasations from stomach, duodenum, &c. Drainage obviated this danger. 1. Rectal drainage: It had long been the custom to drain through Douglas's pouch in married women, and a modification of this route for unmarried women and for men would give better results in the majority of cases than drainage up-hill through a tube passed down to the floor of the pelvis through a suprapubic incision, even when a gauze wick was employed. Allusion was made to the difficulty of re-inserting the wick down to or beyond the inner end of such a tube stitched into the wound during the first few days, and a probe with two short prongs at the end rather than the usual bulbous point was recommended. In Bidwell's scheme the anterior wall of the rectum, just above the base of the prostate in men, was pierced from within out by the closed points of a large Wells's forceps. The points were made to appear per anum, where they grasped a wide drainage-tube, which was then dragged into the pelvis, so that its inner end, supplied with lateral holes, lay about one inch below the sacral promontory. The outer end was stitched to the perineum and drained into a bottle. 2. Routine subphrenic drainage. Bidwell made a vertical skin incision in both loins one inch behind and above the anterior iliac spine, and, protecting the bowel by a hand passed through the laparotomy wound, the closed points of a large Wells's forceps were thrust between the muscle fibres and so into the peritoneal cavity and out through the front wound. A tube fed into the opened blades of the forceps was dragged through the front wound and out through the loin, and its inner end was then put into the interval between the diaphragm and liver on the right side, and between the spleen and diaphragm on the left side. The tubes were sutured at their exit through the skin. Once these subphrenic and rectal drains had been inserted, the peritoneal cavity was freely flushed with several quarts of hot saline solution at 112° to 115° F., any adhesions found being gently but thoroughly separated. Objections to Bidwell's technique: 1. As to the rectal or vaginal route, the risks of drawing up a drainage-tube from without in were discussed but dismissed by Mr. Curtis as being, in his considerable experience, more theoretical than practical, provided free flushing was employed, which had

the additional advantage of greatly reducing shock and immediately improving the patient's condition. To obviate the theoretical objection that Bidwell's method was "unsurgical," Mr. Curtis modified the technique and devised a cylindrical drainage-tube introducer, having one end slightly curved and blunt-pointed, to puncture with; the other end bulbous, for attachment of the drainage tube. In all cases, rectal, vaginal, or subphrenic, the tube was inserted from within out, and the inner end of the tube was then pushed into the appropriate region. Introduction could be more rapidly and safely performed by this instrument than by means of Wells's forceps. 2. As a drainage through the loins, whether of the subphrenic regions, or in cases of appendicitis abscess, which Bidwell recommended to be drained through a loin puncture, closing the front wound (except for a gauze-wick passed down to the extraperitoneal tissue, in view of infection of the abdominal wall), the objections in practice were: (*a*) that such loin-drains tended to kink sharply where passing through the abdominal wall obstructing the drainage; (*b*) the inner ends of the subphrenic drains tended to slip out of position and to protrude towards the mesial line. The same objections held for drains passed through the loin to drain an appendix abscess cavity. To obviate this difficulty Mr. Curtis inserted into all loin drainage tubes thin pewter rods, which allowed the tube to be moulded according to need and to lie snugly in the desired position, while permitting the freest drainage. A gauze wick might also be used if desired. Rectal drainage rapidly ceased, usually in from three or four days, and the tube was withdrawn accordingly. This applied also to the loin tubes. In conclusion, Mr. Curtis reported a case of overlooked appendicitis abscess in a young man who walked up to the hospital from his work on the fifth day of illness. He was found to be in a condition of most severe septic peritonitis, the distal half of the appendix being detached and discovered adherent to the anterior abdominal wall. The abdomen was full of the most offensive pus, containing streptococci and B. coli. Remarkable improvement at once followed, but after 48 hours vomiting set in and became fæcal. Paralysis of the bowel from adhesions was diagnosed on the third day, when the abdomen was therefore again opened. A distended coil of small intestine lying horizontally across the epigastric region was found and traced to a firm band attached to the great omentum in the right hypochondrium. This was divided, and recovery followed. In spite of the many triumphs already achieved, with greater vigilance, promptness, and boldness Mr. Curtis considered that the mortality from septic peritonitis was capable of being still greatly reduced, ignorance in the early stage and timidity subsequently being the two chief factors responsible for the present too high rate.

CLINICAL SECTION.

Cases in which Splenectomy has been Performed or is Contemplated for Disease.

A MEETING of this section was held on Feb. 13th, Dr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. T. R. WHIPHAM described four cases of Splenic Anæmia occurring in the father and three children of one family. He said that the incidence of this disease in two successive generations was very rare. The blood counts in them all were very similar and the differential counts were practically identical. The lymphocytes and polymorphonuclears were correspondingly increased. The red cells were diminished and showed alteration in size, shape, and nucleation. Another feature was eosinophilia, which could possibly be explained by the presence of a tapeworm in the father; but this was not so in the case of the children. He did not think that splenectomy was indicated for the father and a boy who were in a fairly good state of health, but it had to be considered in the cases of the two other children (girls), who had marked anæmia and whose blood had deteriorated lately.

Mr. PERCY SARGENT showed a case of this disease after splenectomy. The patient, a girl aged 10, recovered from the operation, but six weeks later severe hæmatemesis occurred, and was followed by pyrexia and a varying amount of diarrhœa. The leucopenia was replaced by a considerable leucocytosis, but now, 13 months later, the blood had become normal except for a slight increase of lymphocytes.

Dr. GEOFFREY HOFFMANN showed a case in a girl, aged 12, from whom the spleen had also been removed. She had had hæmatemesis, epistaxis, purpura, and melæna. The blood condition rapidly improved after the operation, and was still normal more than two years later.

Dr. HERBERT FRENCH and Mr. PHILIP TURNER showed a patient, aged 5, whose case had been diagnosed as one of splenic anæmia of the infantile form, and who had rapidly recovered after splenectomy. A younger sister had a similar condition. He thought that the cause was probably syphilis, although antisyphilitic treatment had been unsuccessful.

Sir J. BLAND-SUTTON advised splenectomy for the boy shown by Dr. Whipham. He thought that the result would be so good that it would afterwards be performed for the other cases of the family, the father excepted.

Dr. G. R. WARD disagreed with the diagnosis in the family group of cases. There was slight yellowness present due to blood destruction. The blood counts were typical of acholuric jaundice.

Dr. F. PARKES WEBER agreed with Dr. Ward. If enlargement of the spleen occurred in a family in which adults as well as children were affected and was associated with anæmia, the condition was the same as that of hæmolytic jaundice, although jaundice might not be present. No member of the family had leucopenia, which was strong evidence against splenic anæmia. Dr. French's cases belonged to a class which formed a group in themselves, in which cachexia, anæmia, and splenic enlargement were associated with congenital syphilis, but antisyphilitic treatment did no good. They were not syphilitic, but were engrafted on a syphilitic base.

Sir WILLIAM OSLER said that the remittent fever accompanied by eosinophilia in Dr. Whipham's cases indicated trichinosis, in which the eosinophilia often persisted. He also considered them examples of a form of hæmolytic jaundice. He referred to the importance of distinguishing cases of congenital syphilitic cirrhosis of the liver accompanied by enlargement of the spleen and hæmatemesis from splenic anæmia. He had long urged the value of excision of the spleen in the latter, and it had been shown emphatically that this procedure produced a cure.

Dr. C. R. BOX said that the case shown by Dr. French had formerly been under his care, and he regarded the patient as an example of von Jaksch's anæmia. The case showed that splenectomy did good in that condition. He had treated a similar case in which there was slight increase of fragility of the red cells. The spleen was removed, and though the patient died from an abscess in the stump, the blood condition improved greatly. There was a connecting link between cases of von Jaksch's anæmia, of acholuric jaundice, and of the splenic anæmia of adults.

Cases of Acholuric and Hæmolytic Jaundice were shown by Dr. W. ESSEX WYNTER and Sir J. BLAND-SUTTON, Dr. J. HUGH THURSFIELD, and Sir BERTRAND DAWSON. Dr. WYNTER and Sir J. BLAND-SUTTON'S case was one of congenital acholuric jaundice which had recovered completely and rapidly after splenectomy. Dr. WYNTER said that he had found that in such cases it was usual for an excess of cells to be present after removal of the spleen, but this afterwards subsided. It looked as though there was a compensatory overproduction which persisted for a time. In considering the advantages of splenectomy one ought to regard, not only the possibility of a fatal issue, but also the chances of enjoying the full functions of life.

Dr. THURSFIELD'S case was also one of congenital acholuric jaundice which had recovered after splenectomy. He insisted on the importance of separating out such cases from those of splenic anæmia. He thought that the fragility of the red corpuscles was a definite means of distinguishing acholuric jaundice. In true splenic anæmia this was either normal or less than normal.

Sir BERTRAND DAWSON thought that they would have to recast their present classification of such cases and had had to modify his views as to the value of fragility. He recounted cases of hæmolytic jaundice without increased fragility. The jaundice was due to over-production of bile pigments, and it was possible that the spleen might be so destructive that it broke up corpuscles of normal fragility. He regarded the manufacture of the precursors of bile pigment as a function of the spleen. Fragility persisted in spite of removal of spleen, and this was so in the case on which Sir Spencer Wells had operated and which was now

under his care. In hæmolytic jaundice there were phases of so-called bilious attacks and bile in the urine; he was in the habit of exploring the gall-bladder in such cases and commonly found either gall-stones or bile mud present, a condition which should be dealt with first. In cases in young people a large spleen was found, but this was not necessarily so, and in older patients hæmolysis probably occurred without splenic enlargement.

Dr. PARKES WEBER said that the association with gall-stones had been described by Gilbert, but the proportion of cases was not a large one. The speaker had suggested the name "splenomegalic anæmia" for those cases where there were anæmia and hæmolysis, but no jaundice. He suspected that the presence of bile pigment in the blood without bile salts might be the cause of the increase of the fragility. In obstructive jaundice, where both were present, there was an increased resistance.

Dr. JAMES GALLOWAY showed a case which he regarded as a case of Splenic Anæmia of the Banti type. There had been very severe gastro-intestinal hæmorrhages, and the spleen was considerably enlarged. There was no evidence of syphilis. An ascites had appeared rapidly, which he suggested might be due to portal thrombosis. He invited opinions as to the advisability of removal of the spleen.

Mr. W. D. SPANTON said that with the progress of surgery excision of the spleen had become justifiable. In 1863–1875 the mortality was 75 per cent.; in 1876–1885, 59 per cent.; and in 1885–1895, 16 per cent.

Other speakers favoured removal of the spleen in Dr. Galloway's case.

Fleet-Surgeon P. W. BASSETT-SMITH showed a case of Kala-azar in an adult from Malta. Every fourth day the man was being treated by intramuscular injections of atoxyl and of a vaccine prepared from his own cultivated bodies obtained by puncture of the liver. Constant counter irritation had been applied to the splenic area, and yeast had been given to increase, if possible, the white cells. During the 10 months he had been under treatment he had not lost ground. No question of splenectomy arose in this case.

SECTION OF LARYNGOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Feb. 6th, Dr. D. R. PATERSON, the President, being in the chair.

The following showed cases and specimens:—

The PRESIDENT: (1) A case of Double Intranasal Dacryocystotomy for Lacrymal Obstruction; and (2) epidiascopic exhibition of diagrams and skiagrams illustrating the Intranasal Operation on the Lacrymal Sac.

Dr. DAN MCKENZIE: (1) A case of operation on the Tear-duct; and (2) a case of Thyroglossal Cyst.

Mr. E. B. WAGGETT: (1) Resection of Pharynx for Carcinoma; and (2) Resection of Larynx and Pharynx.

Mr. CECIL GRAHAM: (1) A case of Pharyngectomy for Recurrence of Carcinoma after laryngectomy three and a half years previously; and (2) ? New Growth of Ventricle of Larynx.

Mr. G. H L. WHALE: (1) Advanced Gummatous Laryngitis in a patient giving an obvious luetic history and showing gummatous scars on arms; (2) Lupus of Nose; and (3) a case of Sphenoidal Sinusitis after operation showing good drainage.

Mr. G. WILKINSON: (1) Inflammatory Fixation of the Left Arytenoid following alleged impaction of a foreign body in the larynx; and (2) Foreign Body (a piece of book-binding wire) removed under direct laryngoscopy, after having been impacted in the larynx four months.

Mr. H. A. KISCH: A case of Orbital Cellulitis due to ethmoidal and frontal sinus disease.

Mr. J. F. O'MALLEY: Extensive Cicatricial Pharyngeal Diaphragm following Scarlet Fever.

Dr. P. WATSON-WILLIAMS: Specimen to show the exhibitor's Method of Opening the Antrum Intranasally for Chronic Suppuration.

Mr. W. STUART-LOW: A man upon whom a double Ogston's Operation had been performed for Chronic Frontal Sinus Disease.

Dr. JAMES DONELAN: Case of Double Paralysis of the Superior Laryngeal Nerves in a man aged 26, in the course of disseminated sclerosis from lead poisoning.

Mr. C. W. M. HOPE: (1) Double Abductor Paralysis in a child aged 8; and (2) a case of a man with "Habit Grunting" with no obvious cause.

Mr. E. D. DAVIS: Note of the result of treatment of the case of Unusual Adductor Paresis.

Mr. HUNTER TOD: A case of Syphilitic Laryngitis.

Dr. W. H. KELSON: A case of Fixation of Right Vocal Cord for diagnosis.

Mr. W. DOUGLAS HARMER: A case of Pharyngeal Cyst.

MEDICAL SOCIETY OF LONDON.

Decompression of the Brain.

A MEETING of this society was held on Feb. 9th, Sir DAVID FERRIER, F.R.S., the President, being in the chair.

Mr. L. BATHE RAWLING opened a discussion on the Value of the Operation of Decompression in cases of Intracranial Hæmorrhage, the outcome either of accident or disease. His paper will be found in full on p. 529 of this issue of THE LANCET.

Dr. P. HAMILL spoke from his experience gained by experimental investigation in cats carried out by Mr. J. E. H. Roberts and himself. He said that decompression was indicated in certain cases of cerebral hæmorrhage, especially in those fulminant cases in which coma rapidly set in with great respiratory embarrassment. In such cases death usually occurred within 24 hours. It was not advocated for all cases. The clinical syndrome was essentially similar in hæmorrhage, embolism, and thrombosis, the difference was chiefly one of degree. The amount of blood effused was probably not sufficient to produce the symptoms in all cases. There was no effusion in embolism and thrombosis. Effusion of blood, thrombosis, or infarction of any organ or tissue was rapidly followed by the development of œdema. In the brain this soon produced increased pressure. The results of increased intracranial pressure were: (1) Embarrassment of the respiratory centre, stertor and cyanosis; (2) rise of blood pressure; (3) slowing of the pulse (vagal inhibition); and (4) prolonged cardiac failure due to (*a*) excessive strain, or (*b*) inefficient oxygen supply to the heart, the result of the respiratory failure. Three questions arose: Was the rise of blood pressure intrinsically bad? Should we bleed to reduce it? Did the hæmorrhage tend to continue? Some physicians advised bleeding in cases seen early in order to produce a temporary lowering of blood pressure and thus to give an opportunity for clotting to occur. There was much to be said for this practice. Probably the hæmorrhage was all over in a few minutes in most cases unless rupture into the ventricle or under the arachnoid occurred. In many cases the clinical history tended to support this view. In animal experiments the brain herniated immediately after decompression, but did not continue to do so. Rise of blood pressure was a compensatory mechanism, and to lower it to any extent carried with it grave risks of respiratory failure. Animals bled rapidly died. Bleeding appeared to benefit some grave cases probably because the heart, weakened and dilated from lack of oxygen (the result of dyspnœa), dilated and therefore worked less efficiently; bleeding relieved the distension and allowed the heart to contract down and to resume work. The intracranial pressure could be relieved by lumbar puncture or by operation. Lumbar puncture was at best only a temporary measure, and was not devoid of grave risk of sudden death from the formation of a pressure cone. The decompression operation was an efficient method of lowering the pressure; in some cases it was not necessary to turn down a large dural flap, provided that on puncturing the dura cerebro-spinal fluid flowed freely and the patient was relieved. Animal experiments illustrated this point. It was a matter for the skill and experience of the operator. Blood might burst through the cortex and produce rapid relief; drainage would then be necessary. In most cases a general anæsthetic was not necessary, and was better avoided owing to its tendency to cause a fall of blood pressure. Probably a local anæsthetic should be administered, as Crile's work indicated, provided there was sufficient time available to allow it to be used. The chief points which might be urged in favour of operation were the following: The danger was not great, and was small compared with the condition of the patient. The results on

recovery would probably be better since there would probably be less scarring: (*a*) less destruction of brain round the clot owing to there being a smaller amount of compressed œdematous tissue; and (*b*) if the clot was turned out there was less to absorb and so a shorter convalescence. The risks of pneumonia were less if there was restoration of normal breathing. Subtentorial hæmorrhage had a very high mortality; probably many cases could be saved. Numerous successes had been recorded by various authors. It might be urged that there was risk of recurrent hæmorrhage. The size of the risk was at present unknown. It was present in all cases of cerebral hæmorrhage, and hæmorrhage might also follow thrombosis. In many case of hæmorrhage localisation of the lesion was difficult; it was probable that the site of the decompression was not of much importance. The point was under investigation.

Mr. ROBERTS said that there were a few points which had not been brought out by Dr. Hamill, but which appeared from their investigations: (1) That the effects of hæmorrhage were due to compression and not to the injury itself; (2) that artificial respiration should be readily obtainable; and (3) that the application of decompression to the meningeal hæmorrhages of the newly born was advisable and had been successfully performed.

Mr. C. A. BALLANCE said that he thought the time was not far off when all varieties of intracranial hæmorrhage would be considered as clearly surgical as were other forms of hæmorrhage. It had long been recognised that fracture of the cranial vault, when accompanied by cerebral symptoms, should be treated by operation whether there was or was not any obvious depression of bone, but the same practice was by no means so generally followed in the treatment of fractures of the base of the skull, notwithstanding that these fractures were liable to be infected by the openings of the nose, the ear, and the pharynx. The effused blood, which induced an increased secretion of the cerebro-spinal fluid and œdema of the brain, must be evacuated whether it was within or without the dura or intracerebral in location. Effusion of blood within the cranial cavity might occur from injury in such amount that life was immediately threatened, and would be destroyed if the pressure was not promptly relieved. Intradural hæmorrhage might be complicated by injury to a sinus. Such cases demanded immediate operation. Intradural hæmorrhage did not always call for immediate operation, and it was only in the later stages that such cases came into the surgeon's hands. Hæmorrhage also occurred into the subarachnoid space and into the brain itself in injuries which lacerated the brain, even when no fracture of the skull had occurred. Referring to apoplexy, he said that the chief difficulty in the study by operation of these cases was that acute apoplexy was seldom seen in hospital practice, and in operation for chronic apoplexy the best results could not be obtained. In conclusion, he would urge that operation was the rational treatment in all the types of cases mentioned, especially in fracture of the base and in acute apoplexy, which had, until now, seldom been considered as urgently demanding surgical intervention.

Mr. W. G. SPENCER said that he preferred the suboccipital site for decompression when the site of the lesion was unknown, and by that means often came down upon the hæmorrhage. There were certain difficulties in the way of subtemporal decompression. He always trephined cases of compression as far as he was able if the patients were going downhill. He narrated certain cases in which decompression had been performed with advantage, and one of apoplexy in which the heart improved promptly after the operation. Referring to the experimental evidence, he did not think that the results could be transferred from the cat to the human being. There were difficulties in connexion with the stimulation of the dura and cortex, which might follow the procedure employed by Dr. Hamill and Mr. Roberts, and he suggested that the dog and monkey would be the better animals for the purpose.

The PRESIDENT spoke with regard to the advisability of operation in cases of apoplexy. There were many questions to be answered. Which were the suitable cases? How long should one wait? Was there any great risk from damage to the brain? There were many things other than pressure to be considered in such cases. Might not another burst of hæmorrhage be produced by the operation? He said he would be very guarded in recommending the operation for spontaneous apoplexy.

HARVEIAN SOCIETY OF LONDON.

Discussion on Oral Sepsis in its Medical and Surgical Aspects.

A MEETING of this society was held on Feb. 12th, Mr. J. JACKSON CLARKE, the President, being in the chair.

Dr. WILLIAM HUNTER opened a discussion on Oral Sepsis in its Medical and Surgical Aspects. He referred to the frequency with which oral sepsis was met and the far-reaching character of its effects. Its seriousness lay not so much in its mere presence as in its association with open wounds in the mouth. The peculiar anatomical disposition of the teeth made the proximity of sepsis a particularly dangerous one. He spoke of the frequency of tonsillitis and chronic inflammatory conditions of the naso-pharynx when oral sepsis was present. Septic gastritis was a common complication. Septic anæmia arising from this source was frequently superadded to other diseases such as phthisis, nephritis, and specific fevers, and might constitute a serious disease in itself. He regarded pernicious anæmia as a disease *sui generis* but intensified by anæmia of septic origin, and treatment devoted to this factor had greatly improved the prognosis. He did not advocate such wholesale extraction of the teeth as was sometimes performed. What was needed was the advent of an era of antiseptic medicine comparable to that of antiseptic surgery.

Mr. W. H. DOLAMORE spoke from the point of view of the dental surgeon. He did not think that wholesale removal of the teeth was justifiable except in comparatively rare cases where severe systemic disorders followed.

Dr. C. BUTTAR said that he would like to ask the wholesale extractors and the vaccinists what proportion of their cases could be described as cures? and did the percentage justify the pain, the disappointment, and the distress of an edentulous lower jaw caused in those who were not benefited by the treatment? In his own practice, amongst ten patients treated by different specialists, only one professed to be relieved of his symptoms. He narrated several cases in which extreme measures had been far from satisfactory, and urged enthusiasts to consider carefully whether they were not doing rather more harm than good by this form of treatment.

Mr. G. COATS thought it was very questionable whether chronic irido-cyclitis was connected with oral sepsis. Post-operative inflammation might be due to it and therefore septic teeth should be removed before intra-orbital operations.

Mr. D. C. L. FITZWILLIAMS corroborated Dr. Hunter's view that tuberculosis of glands was engrafted on adenitis arising from oral sepsis, and agreed with him as to the importance of septic teeth in causing tonsillitis.

MANCHESTER PATHOLOGICAL SOCIETY.

Leucocytic Reaction after Repeated Serum Injections.—Perforating Ulcer of the Aorta.—Acute Perforating Diverticulitis of the Pelvic Colon.—Congenital Heart Disease.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 11th, Dr. A. BROWN being in the chair.

Dr. J. S. C. DOUGLAS read a paper on the Leucocytic Reaction after Repeated Serum Injections. In an experiment on man a leucocytosis followed the subcutaneous injection of normal horse serum and also of diphtheria antitoxin given a few days later, but when antistreptococcic serum was subsequently introduced none was observed. This failure of leucocytosis in the third experimental period was discussed, and with the aid of experiments on rabbits it was shown that neither the presence of antibody in the serum nor the induction of the anaphylactic disease would serve as an explanation, but that it was possibly due to some failure of the leucocytic system to respond to the repeated serum injections similar to that found by Jörgensen in the formation of agglutinin after repeated doses of antigen. The possible bearing of this observation on the treatment of patients with repeated injections of serums was pointed out.

Dr. P. R. COOPER described a case of Perforating Ulcer of the Aorta which had caused fatal hæmothorax. The patient, a man, aged 45, had complained of pain in the left side and upper dorsal region for two or three months. He

was distinctly anæmic. There was no evidence of syphilis or injury, but there was a probable history of influenza shortly before the commencement of symptoms. There was absence of any confirmatory signs or symptoms pointing to spinal disease, aneurysm and gastric or duodenal ulcer or cancer. At the necropsy the left pleural cavity was filled with blood clot, and the lung and pleura were adherent to the spine at the sides of the fifth and sixth dorsal vertebræ. The aorta and œsophagus were involved in this adhesion, and it was through a rent in the adhesion that blood had evidently escaped from the aorta. In the aorta was a round hole with well-defined margin about 1 inch in diameter, perforating all the coats; the rest of the aorta was normal except for some small patches of atheroma. The adjacent bodies of the fifth and sixth dorsal vertebræ were partially eroded. It was suggested that the condition might have been due to a circumscribed aortitis, probably influenzal in origin.

Mr. JOHN MORLEY described a case of Acute Perforating Diverticulitis of the Pelvic Colon. The patient was a man, aged 50, who was sent into Ancoats Hospital as a case of retention of urine. There was a history of pain in the left lower abdomen for a week, much worse the last two days before admission, attended with constant painful desire to micturate and great difficulty in the act. A silver catheter was passed without difficulty, and the urine, beyond containing some albumin, was not abnormal. There was frequent vomiting and absolute constipation in spite of enemata. The abdomen was generally distended and tender and somewhat rigid, but chiefly so in the left iliac fossa. There was shifting dulness in the left flank. Diagnosis lay between peritonitis due to a misplaced appendix, acute perforating diverticulitis, or thrombosis of the inferior mesenteric vessels. Operation under spinal anæsthesia revealed general peritonitis. The appendix was normal, but the pelvic colon was thickened and adherent to the bladder. In spite of peritoneal toilet and drainage the patient died five hours later. Post mortem, a necrotic perforation was found in the pelvic colon of the size of a threepenny piece. Round this, projecting into the bases of the appendices epiploicæ, were several small diverticula or herniæ mucosæ. It seemed plain that fæcal impaction in one of these pouches had led to gangrene of the pouch and perforation. Diverticula of the pelvic colon were found in elderly subjects with chronic constipation. The complications which might give rise to symptoms were as follows: (1) chronic thickening of the pelvic colon and plastic adhesions (peridiverticulitis), producing a mass that simulated cancer; (2) cancer might supervene on chronic diverticulitis; and (3) acute inflammation due to fæcal impaction might give rise to (*a*) general peritonitis or (*b*) a localised abscess. Such an abscess might rupture into the bladder, producing (*c*) a vesico-intestinal fistula. The adhesion to the bladder and intense pain on micturition showed that in the case under discussion such a fistula was within a little of being produced.

Dr. CHARLES H. MELLAND gave an account of a case of Congenital Heart Disease in which it was recognised that the heart's apex beat was to the right and the liver dulness on the left. At the post-mortem examination (the child was 1 year and 3 months old and a patient at the Northern Children's Hospital) complete transposition of all the viscera was found. The heart showed the usual features of stenosis of the pulmonary orifice, with imperfect ventricular septum and patent ductus arteriosus. In view of the suggestions that have been made that congenital heart disease was the result of fœtal rheumatism, or, more recently, is the result of congenital syphilis, the occurrence of the widespread developmental defect with the cardiac lesion strongly suggested that the congenital heart disease in this case, as he believed in all others, was purely a developmental defect and not in any way due to either of the two other suggested causes.

Dr. MELLAND also showed macroscopic and microscopic specimens from a case of Melanotic Sarcoma. The patient was admitted into Ancoats Hospital with enormous enlargement of the liver and ascites. There was a history that he had had one of his eyes removed for melanotic sarcoma some 12 or 13 years before, and at the post-mortem examination melanotic sarcomata were found widely disseminated throughout the various organs and tissues of the body. No other possible primary source was to be detected, and it was of much interest to speculate on what was happening in the long period between the removal of the primary growth and the general dissemination of secondary tumours.

Dr. MELLAND also showed specimens from a case of General Lympho-Sarcomatosis. The boy, aged 12, had had glands enlarged in the neck and one axilla for six years. These had varied in size during that period, occasionally almost disappearing under arsenic, in the way so typical of Hodgkin's disease. In the end, however, treatment had failed, and at the necropsy it was found that extensive dissemination, particularly in the abdominal organs, had occurred. The liver, pancreas, abdominal lymph glands, and kidneys were invaded and in some cases almost replaced by lympho-sarcomatous masses. Whether these were true secondary growths or were evidence of general sarcomatous transformation of pre-existing lymphoid tissue was difficult to be certain about, but the fact that the Peyer's patches were extensively involved seemed to point to the latter explanation as the most likely.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The Presence of Complement in Infectious Diseases.—Anomalous Forms of Enteric Bacillus.—Excretion of Salt and Nitrogen in Nephritis of Scarlet Fever and Diphtheria.—Wassermann Reaction in Children from Poorer Classes.

A MEETING of this society was held in Ruchill fever hospital on Jan. 30th, Mr. A. ERNEST MAYLARD, the President, being in the chair.

Dr. W. C. GUNN discussed the Presence of Complement in Infectious Diseases. He said that in enteric fever he had found complement always present, and as a rule more abundant throughout the period of pyrexia than during convalescence. Diminution in its amount in favourable cases seemed to coincide with the production of immune body. Severity of the attack bore some relation to the amount of complement present. In patients who were very ill complement as well as immune body might be produced slowly, or only a weak type of complement might be present. In patients moderately ill a relatively small amount of complement seemed to indicate the presence of a considerable amount of immune body, but not sufficient to terminate the attack. In the intermediate type of illness, the most common, a large amount of complement was usually found. During relapses complement was increased, and diminished when recovery was taking place. Death from enteric fever appeared to be due chiefly to absence of immune body. Complement was sometimes very abundant in fatal cases, but at other times only a weak type might be present. Complement and immune body were not produced in any fixed ratio to one another. In the majority of cases of erysipelas examined complement was present in greater amount during the acute stage than during convalescence, the diminution apparently coinciding with the production of immune body. In diphtheria varying results were obtained. In 10 severe cases complement was greater in amount during the acute stage than during convalescence. In 5 moderately severe cases the amount was greater during convalescence. In 4 cases little or no complement was present during the whole illness, while in 2 cases of fatal diphtheria of the hæmorrhagic type complement was relatively abundant shortly before death. In 6 mild cases of scarlet fever no definite type of variation in the amount of complement occurred. In 10 more severe cases a diminution was observed during the pyretic period, with, in 6 of these, an increase during convalescence. In 4 cases of scarlatinal nephritis little or no complement was found. In 2 fatal malignant cases a large amount of complement was present at the time of death. In measles the variations of complement were small and seemed to follow no definite rule. In typhus fever complement seemed to be less in amount during the period of illness than during convalescence, while in lobar pneumonia it was present in greater amount during the acute stage than during convalescence.

Dr. ADAM PATRICK described some Anomalous Forms of the Enteric Bacillus. It was found during the investigation of bacilluria in men suffering from enteric fever that in 6 cases out of 17 the bacilli were not typhoid bacilli, but

members of the typhoid-coli group, not previously described. B. coli occurred in none of the male cases, but was the organism present in 6 out of 7 cases of bacilluria in women with enteric fever. The atypical bacilli appeared in the urine rather after the time for typhoid bacilluria, persisted for quite a short time, and appeared to cause no constitutional disturbance. Though practically unaffected by anti-typhoid serum they were agglutinated in varying degrees by the serum of the patient from which each was isolated. Having been stored on agar slopes at about 6° C. they were found, on re-examination a year later, to have acquired greater fermentative powers with regard to certain sugars. This property has usually been described as developing by continued growth and subculture of an organism in a solution of the sugar; but with these bacilli the power, though afterwards increased by subculture, developed in many instances spontaneously.

Dr. J. P. KINLOCH discussed the Excretion of Salt and Nitrogen in the Nephritis of Scarlet Fever and Diphtheria.

Dr. W. M. ELLIOTT spoke of the Wassermann Reaction in Children from the Poorer Classes. His investigation had aimed at ascertaining whether the wasted and unhealthy condition so often found in such children had a syphilitic basis. Of 43 children who were ill-nourished, pale, flabby, and sometimes with sores about the mouth or nose 6 gave a positive and 2 a probable positive reaction, though only 3 of the 8 showed signs of syphilis. Of 45 children who were apparently in good health 3 gave a positive and 1 a probable positive reaction, only one of the 4 showing signs of syphilis. Of 42 children who were well nourished but had nasal or aural discharge 5 gave a positive and 1 a probable positive reaction, and none showed any sign of syphilis. The conclusion drawn was that the proportion of cases in which the impairment of health was due to syphilis was small, and yet sufficiently large to indicate the desirability of applying the Wassermann test to such children with a view to treatment.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Exhibition of Cases.—Fatal Anæmia.—Fatality from Salvarsan.

A MEETING of this section was held on Jan. 30th, Dr. J. F. O'CARROLL, the President, being in the chair.

The PRESIDENT showed a boy, aged 16, who up to June last was in good health. Going to school in that month he got several wettings and sat in his wet clothes. In a week he noticed stiffness on rising from his seat. After about three months feebleness in walking ensued. There was not much to be seen in the lower limbs. The shoulder girdle muscles were considerably shrunk, and the wrist and fingers were stiff, but could be extended, though with pain. Muscular failure of the palm, thumb, and little finger. No defect in sensation. Almost all movements could be performed, but with diminished power. Slight palatal paralysis. The case suggested juvenile dystrophy, but there was nothing positive about it. The slight palatal paresis pointed to the possibility of more than mere primary muscular trouble.

Dr. G. PEACOCKE showed a man suffering from Anterior Poliomyelitis. He had been affected at the age of 45. The lower limbs were affected, and showed the various phenomena characteristic of the disease when fully developed.—Dr. ELLA WEBB and Dr. F. C. PURSER discussed the case.

Dr. PEACOCKE read notes of a case of Fatal Anæmia in a man aged 43. In February, 1913, he suffered from pain after food, vomiting, weakness, and anæmia, which almost entirely disappeared under treatment, but after a time returned. He came under observation in the following August, with vomiting, absence of HCl in stomach contents, obstinate constipation, great muscular weakness, feeble action of heart, dark pigmentation of skin of abdomen and chest, and severe anæmia of a secondary type. He gradually became weaker, and died on Dec. 2nd. Temperature was irregular, but never exceeded 100° F. No abdominal tumour; abdominal walls markedly rigid. Heart and lungs normal. Post-mortem examination revealed no evidence of disease. In the absence of malignant or adrenal disease, he asked, was this a case of pernicious anæmia?—Dr. G. E. NESBITT in view of the marked pigmentation would have expected to find Addison's disease.

Dr. NESBITT reported a fatality after 0·4 grm. salvarsan intravenously in a poorly developed man aged 25, the subject of syphilis, either congenital or acquired early in life. The injection was followed by two rigors, with symptoms of collapse, death ensuing in 25 hours. In the absence of signs of arsenical poisoning or other apparent cause of death, the theory of excessive liberation of toxin was advanced.—Dr. H. C. EARL, showing the pathological specimens, said the liver contained numerous gummata, large and small. Sections were shown under the microscope. The epiglottic mucous membrane was greatly thickened, but not ulcerated. The kidneys appeared normal, but much congested. The third, fourth, and fifth cervical vertebræ were necrosed. The laminæ were removed and the cord and dura mater seemed unaffected. The heart was healthy. The brain was not obtained.—Dr. G. E. P. MELDON said at the Lock Hospital a good number of cases were treated with salvarsan, many of the patients being in a shaky condition. The first point to attend to was thoroughly to clear out the alimentary canal, otherwise the reaction would be very much greater. In a doubtful case he thought it best first to put the patient on mercury and iodide, to destroy as many spirochætæ as possible, and thus lessen the reaction. In this case it was rather soon to expect arsenic poisoning; it must have been some vital process.—Dr. LILIENSTEIN (Germany) recalled the case of a patient aged 52, who died an hour after an injection of salvarsan. The patient showed evidence of marked arterio-sclerosis. Another patient developed complete paraplegia after salvarsan and died from pneumonia.—Dr. W. D. O'KELLY and Dr. HENRY MOORE discussed the case.—Dr. NESBITT, in replying, was glad that in the opinion of the members blame did not attach to him for the administration of the drug in this case. There was no loss of consciousness, paralysis, or anything of that sort. There was no arterio-sclerosis.

Dr. LILIENSTEIN demonstrated to the section his Apparatus for Producing Phlebostasis, and detailed its uses in cardiac disease.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 30th, Dr. T. Wardrop Griffith, the President, being in the chair.—A discussion on Glycosuria was opened in a paper by Dr. W. Hale White.[1]—Dr. W. H. Maxwell Telling stated that the most important part of the problem of glycosuria was the treatment of the diabetic, for almost every glycosuria was an actual or potential diabetic. The present imperfect state of our knowledge made this treatment incomplete and unsatisfactory, but he pointed out that one of the causes which contributed largely to this was the amount of time and trouble, and incidentally expense, involved in modern treatment. It was realised that there was no cut and dried routine for these cases, but that each case was a law unto himself. The most careful analyses and chemical investigations were required before the nitrogenous equilibrium and carbohydrate tolerance were determined, and only then would a satisfactory diet scheme be formulated.—Dr. P. J. Cammidge emphasised the importance of realising that glycosuria was a symptom due to a variety of causes and not a disease. The associated conditions varied therefore in different cases, and each case must be considered separately. In a majority of instances it was not possible to determine with certainty the underlying pathological lesion, so that the treatment resolved itself into a question of how best to balance the food-supply against the defective powers of metabolism of the particular patient. Most medical men in treating a case of glycosuria confined their attention too much to the presence of sugar in the urine and neglected other considerations which were equally, and in some instances more, important. An attempt should always be made to render the urine sugar-free, but it was even more essential that the patient should be put in nitrogenous equilibrium. So long as more nitrogen was being passed in the excreta than was taken in the food, the patient could not improve, even if his urine was free from sugar. The highly nitrogenous diet often given to

[1] THE LANCET, Feb. 7th, 1914, p. 367.

diabetics was a relic of a past age, and certainly did a great deal of harm in many instances. As much care should be taken in determining the optimum protein intake as to the quantitative regulation of the carbohydrates of the diet. In both instances the problem could only be attacked satisfactorily by quantitative methods, by balancing the results of analysis of 24-hour collections of the urine against the nitrogen and sugar content of a series of test diet. In some cases it would be found that the tolerance of the patient for a particular kind or form of carbohydrate was much greater than for others, and that by administering this under suitable conditions a glycosuria which otherwise resisted treatment might be made to disappear. This was particularly the case when, as happened occasionally, the persistent sugar was levulose. It was obvious that the less the extent of the disturbances of metabolism the more readily would the conditions be controlled, and the easier would it be to adjust the diet so as to compensate for the defects that were present. The earlier treatment could be commenced the more satisfactory would be the result. Every case of glycosuria was a potential diabetic, and it was therefore unfair to a patient, no matter how slight an amount of sugar he might be passing in the urine, to treat it as a matter of little importance which could be dealt with by a rule-of-thumb method.—Dr. J. Le F. C. Burrow pointed out a few experimental facts with regard to the influence of ductless glands on diabetes.—The President, Dr. T. Churton, Mr. A. L. Whitehead, Dr. S. Samuel, and Dr. A. G. Barrs also took part in the discussion.—Dr. Carlton Oldfield showed two specimens of Dermoid Tumour which obstructed labour by blocking the pelvic cavity. 1. Primipara; very ill; uterus in tetanic contraction; child *in extremis*. Delivery by Cæsarean section. Tumour removed during puerperium. 2. Multipara; general condition of mother and child good. Removed tumour by abdomen after first withdrawing uterus through long incision. Labour progressed during suturing wound so that head was found in perineum at end of operation. Both mothers did well, and left the hospital with living children.—Dr. R. A. Veale showed a case of Wasting of the Peroneal and Quadriceps Muscles following a blow on the leg.—Mr. G. Constable Hayes showed: 1. A case with a history of Ulceration of the Soft Palate and Pharynx on and off for four years, during the whole of which period the patient was under mercury and potassium iodide. When seen three weeks ago the whole of the soft palate, and extending slightly on to the hard palate and pharynx, was one large granulomatous mass with a deep central fissure. After two injections of 0·6 grm. of salvarsan, at a week's interval, the whole mass was reduced to about half its original size. The pathological report (by Dr. M. J. Stewart) was as follows: "Wassermann reaction positive. The palatal lesion is essentially a plasma-cell infiltration of the subepithelial tissues, and these cells are present in enormous numbers. The epithelium itself, though thinned, is still intact, and there is no evidence either of tubercle or of new growth." 2. A case with no definite history of syphilis. Wassermann reaction strongly positive. Patient complained of complete nasal obstruction for 14 months. On examination there was marked hard thickening of the skin over the whole nose and also of the mucous membrane inside the anterior half of the nose. 0·6 grm. of salvarsan, given twice at weekly intervals, was followed by marked reduction of the swelling.—Dr. C. W. Vining showed a case of an Enlarged Spleen in a boy, with a negative blood picture and a trace of bile in the urine. The diagnosis lay between (1) splenic anæmia, (2) congenital lues, and (3) splenomegalic cirrhosis. The latter diagnosis was favoured owing to the presence of bile in the urine.—Mr. J. F. Dobson showed a case of Osteitis Deformans. The disease originated six years ago in an enlargement of the left tibia. Enlargements of other bones soon followed, and at the present time both tibiæ, both femora, the clavicle, sternum, spine, and cranial bones were extensively diseased. The patient had lost 4 st. in weight. There was no sign of the development of sarcoma.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this institution was held on Feb. 5th.—Mr. C. A. Adair Dighton read a short paper on Submucous Resection of the Nasal Septum. He considered that the operation should not be performed before the fifteenth to seventeenth year, nor where there was any evidence of active syphilis; he did not believe in a general anæsthetic, and he emphasised the fact that it was deviation in the upper portion of the septum which was serious.—Dr. H. Armstrong and Dr. J. Hay referred to the danger of employing adrenalin when the patient was under chloroform.—Mr. Arthur J. Evans described the removal of a sequestrum and involucrum from the upper arm of a child; within six months there was full functional recovery; no bone grafts were needed and no foreign bodies induced.—Mr. R. W. Murray referred to the tendency to suppurative pericarditis in cases of osteomyelitis. He related a case in which he had evacuated the pus from the pericardium, after which the boy recovered.—Mr. K. W. Monsarratt gave it as his opinion that as a general rule the diaphysis should not be removed.—Dr. McMurray emphasised the importance of the marrow when bone was implanted.—Mr. Simpson spoke and Mr. Evans replied.—Dr. Armstrong, in a short paper on Some Clinical Manifestations of Congenital Syphilis, introduced the subject with an expression of opinion that the type of the disease as now seen was decreasing in the severity of the symptoms, but that syphilitic disease of the central nervous system was increasing in frequency. The fulminating case of the infant who practically rotted away despite energetic treatment was becoming a rarity. Recent Wassermann statistics in children were reviewed, and owing to the complication and expense in blood, time, and money of this reaction the need of the perfection of Noguchi's "luetin" cuti-reaction emphasised. On the clinical side Dr. Armstrong did not regard "marasmus" in which there were no other signs of inherited lues as syphilitic in the true sense, though he thought there were probably cases in which marasmus resulted from the toxic effect of maternal syphilis upon the ovum without actual infection. Such cases would not respond to antisyphilitic treatment. On the question of the part played in the production of congenital deformities by syphilis the opinion was expressed, backed by clinical and Wassermann evidence, that though it was an undoubted factor in a number of cases it was not so in the majority, which had some other origin. Two rashes—pemphigus neonatorum and eczema seborrhoicum—sometimes mistaken for syphilitic lesions, were described and the diagnosis elucidated. Photographs of a case of "cauliflower" tumour of the anus, a papillomatous mass of the size of a large orange in a boy of 9, and of another patient a child of 8 months, with gangrene of the foot, diagnosed as a combination of Raynaud's disease and congenital syphilis, were thrown on the screen, and a case of paroxysmal hæmoglobinuria in a boy of 3 related. Other manifestations were touched on, and Dr. Armstrong concluded his paper with a review of the effects of inherited syphilis upon the nervous system. Syphilitic meningitis in children gave a clinical picture resembling that of the posterior basis of meningococcal type. The treatment differing so greatly lumbar puncture was essential early for diagnosis. Prognosis was fairly good, but blindness, deafness, and mental impairment were liable to follow permanently. Hemiplegia was often preceded by convulsions and frequently recurrent, the prognosis of functional recovery decreasing after each attack. Illustrative cases were quoted, including one of the fatal termination of untreated cerebral syphilis, death ensuing upon convulsions after the patient, a boy of 11, whose first symptoms dated from a hemiplegia at 7, had gradually become diplegic with extreme spasticity and imbecile.—The paper was fully discussed by Dr. E. W. Hope, Dr. F. H. Barendt, Professor J. M. Beattie, Dr. A. G. Gullan, Dr. C. J. Macalister, Mr. Murray, Dr. R. W. McKenna, Dr. W. B. Warrington, and Dr. Wilson.—Dr. Armstrong replied.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 4th, Dr. Donald, the President, being in the chair.—Mr. William Thorburn gave an address on "The Present Position of Cerebral Surgery." He began by stating that he intended to confine his remarks to the surgery of epilepsy and new growths of the brain—a branch of surgery that until quite recently did not admit of scientific review owing to the lack of statistics that covered any large numbers of cases. During the past year this absence of statistical basis had, as regards tumours, been filled in from various clinics, and in particular from the Queen-square Hospital. From his own

statistics the number of successful cases of the surgical treatment of epilepsy worked out in round numbers at 25 per cent. The most satisfactory type of case was the traumatic, and the more definite the history of trauma the greater was the probability of cure. Idiopathic epilepsy was an extremely unsatisfactory condition for surgical treatment. The operation for epilepsy was a decompression necessarily and involved a craniectomy in all cases. Bony spicule when present were removed from the cortex; such cysts as were found were evacuated and their walls destroyed. These abnormalities, however, were not common. Adhesions between the brain and the dura, or between the dura and the cranium, were common; these were separated and strips of Cargile membrane interposed. Damaged cortex when present was removed. The bony defect in the cranium never caused any difficulty in the after-course of the case. The results obtained in Manchester, at Queen-square, and in von Eiselsberg's clinic were compared as regards the operative treatment of cerebral tumours. These results were by no means so depressing as they appeared at first sight from the published statistics. It must be remembered that many of these cases were moribund at the time of operation. In most the tumour was malignant, and anything in the nature of a radical removal was quite out of the question. The results of such operations should be judged only in comparison with the probable result in the case of a malignant tumour of the breast, in which the only course admissible was excision of the tumour nodule itself. An operation for a cerebral tumour should be approached from the standpoint of a decompression only, the growth being removed only when it was superficial and visible. Anything in the nature of exploring the brain substance should not be performed. It should be quite clearly understood that a complete cure could only be vicariously obtained. What was aimed at was the prolongation of life for a time, the lessening of the pain, and the relief of blindness. Judged from this standpoint, the operative treatment of cerebral tumours was rational and satisfactory. Exposure of the cerebral cortex was a procedure associated with little, if any, danger. Laceration of the brain substance, as must necessarily occur if the growth was sought for, was a dangerous and in most cases a useless proceeding. Operations for cerebellar tumours were in most cases unsatisfactory. In the case of cerebello-pontine growths there was a marked tendency, as the tumour developed, for the brain stem to become twisted, and this twisting being gradual was tolerated up to a certain point; removal of the growth or even simple decompression if performed in the usual manner resulted in the sudden release of this strain, a rapid "untwisting" of the brain stem, and, as a rule, rapid death from œdema or hæmorrhage into the bulb. In such growths the performance of decompression should be as gradual as possible, the operation being performed in three stages at least. At the close of his address Mr. Thorburn showed many specimens illustrative of his remarks.

OCKENDEN CONVALESCENT HOME.—At the annual meeting of the subscribers to the Ockenden Convalescent Home the report stated that 218 patients had been admitted during 1913, the average daily number of occupied beds was 19·2, and the average stay of each patient 31·20 days. The income was £762 and the expenditure amounted to £748.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, CITY-ROAD, E.C.—Sir Richard Biddulph Martin presided at the annual general meeting of this charity on Feb. 12th, when Mr. F. Swinford Edwards moved that the change of rule passed by the board on July 15th, 1913, "that a representative of the active surgical staff should in future have a place on the committee of management," be adopted as it was a most desirable reform. Such a member of the active staff knew by experience the daily surgical exigencies of the place. The resolution was carried without dissent. The report, which was adopted, made reference to the inevitable difficulties incidental to appealing for funds owing to the nature of the hospital. It also showed that during the past year the number of in-patients had been 621. The number of out-patients was 1854, who made a total of 6324 attendances.

Reviews and Notices of Books.

Surgical Experiences in South Africa, 1899-1900.

Being mainly a Clinical Study of the Nature and Effects of Injuries produced by Bullets of Small Calibre. By GEORGE HENRY MAKINS, C.B., F.R.C.S. Eng., Senior Surgeon to St. Thomas's Hospital; Vice-President of the Royal College of Surgeons of England, &c. Second edition. Illustrated. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 504. Price 10*s.* 6*d.* net.

THE first edition of this well-known work was published in 1901.[1] For some years it has been out of print, and its reappearance will be welcomed. It is practically a reprint of the former issue, except for the continuation of the histories of some of the cases, especially those of aneurysm. In bringing this volume to the notice of our readers we need say little by way of introduction; its extremely practical character, based entirely on experience, the admirable clearness with which it is written, and the large number of illustrations (28 full-page plates and 105 figures in the text) constitute its value.

There is no need to revive the old controversy that raged as to the efficiency of military medical administration in the South African war; accusations often retain their vitality long after they have been satisfactorily refuted; but the testimony of the leaders of the profession who took part in that war has been practically unanimous as to the efficiency of the medical aid rendered, taking the campaign as a whole. Mr. Makins speaks for the excellence of the organisation of the General Hospitals and the success of their surgical results; he recognises the immense strain that was thrown on the medical service of the army during the campaign, and considers that "the medical profession may well be proud of the efforts made by its military representatives to do the best possible work under the circumstances." The aseptic nature of wounds by small bullets of high velocity (due to renewal of the bullet's surface by passage through the barrel and to the heat to which it has been subjected), and, on the other hand, the invariable suppuration of shell wounds (with the exception of clean leaden shrapnel tracks), are two important generalisations now universally acknowledged. Gunshot wounds of joints, formerly causing the greatest anxiety to the surgeon, are now little more to be dreaded than uncomplicated wounds of the soft parts alone, "owing to the harmless character of the projectile [the small calibre bullet] as a possible infecting agent."

Radium: its Physics and Therapeutics.

By DAWSON F. D. TURNER, M.D. Edin., F.R.C.P. Edin., Medical Officer in charge of the Radium Department, Edinburgh Royal Infirmary. Second edition. London: Baillière, Tindall, and Cox. 1914. Pp. 170. Price 5*s.* net.

IT was our pleasure to review the first edition of this handy volume (THE LANCET, April 1st, 1911), and that a second edition of a work on such a highly specialised subject should so soon be called for is evidence of the popularity it has been accorded.

In the present edition we have all the good points of the first one, and a lot of new matter is

[1] THE LANCET, June 1st, 1901, p. 1544.

added so as to keep in step with the latest ideas on the physical properties and applications of radium in the treatment of disease. As an example, a new chapter has been added on the use of the emanation of radium and thorium compounds; also the section dealing with the treatment of malignant disease has been considerably extended, and the details of many new cases have been added. While some progress has been made in this direction, especially in localised lesions, the fact still remains that we are not much further forward as regards inoperable cases.

This is a valuable handbook on radium, and is to be recommended to those who wish to keep in touch with present ideas.

The Principles and Practice of Gynæcology for Students and Practitioners.

By E. C. DUDLEY, A.M., M.D., Professor of Gynæcology, North-Western University Medical School. Sixth revised edition. Illustrated. London: Henry Kimpton. 1913. Pp. 795. Price 25*s.* net.

SOME five years have elapsed since the last edition of this book appeared. A large part of it has been rewritten, more particularly the chapters dealing with general principles, inflammation, tumours, and traumatisms. The subjects are arranged in pathological and etiological sequence, so that, for example, infections and inflammations are brought together, and tumours are treated in one part, traumatism in another, and displacements in another.

It is always interesting to note what view any author takes of such new theories or methods of treatment as have appeared since the last edition of his book was published. In this edition we find that Professor Dudley has not seen any reason to change his views on the merits of the extended abdominal operation in the treatment of operable cancer of the cervix. He is still inclined to regard ignihysterectomy—a combined vaginal and abdominal hysterectomy carried out mainly by the cautery—as a better operation than that commonly known by the name of Wertheim. His readers must, however, bear in mind that some surgeons at any rate make a great use of the cautery knife in performing the extended abdominal operation, and no doubt it presents many advantages. At the same time it is interesting to note that the author is not convinced of the greater advantages presented by Wertheim's operation. Professor Dudley is essentially conservative in his opinions. For example, in mentioning the use of X rays in the treatment of cases of fibromyomata of the uterus he recalls the lessons of the use of electrolysis in such cases, and is evidently very incredulous of the results said to have been obtained; and yet every day brings fresh evidence of the great value that this method presents in the treatment of fibroid tumours of the uterus. It is surprising to find in a book of this scope the subject of ovarian pregnancy dismissed in one line, as well as so inadequate an account of the pathological changes which occur in the tube in connexion with tubal pregnancy.

The book has many good features, and is strongest in its descriptions of the various forms of plastic operations upon the pelvic organs; indeed, in this respect it would be difficult to surpass it. At the same time, in our opinion, an undue amount of space is devoted to these and kindred subjects to the detriment of the rest of the work.

A Handbook of Hygiene.

By A. M. DAVIES, M.R.C.S. Eng., L.S.A., D.P.H. Camb., Lieutenant-Colonel, R.A.M.C. (retired), late Professor of Hygiene, Royal Army Medical College. Fourth edition, revised and enlarged by A. M. DAVIES and C. H. MELVILLE, M.B., C.M. Edin., D.P.H. R.C.P.S. Lond., Brevet-Colonel, R.A.M.C., late Professor of Hygiene, Royal Army Medical College. London: Charles Griffin and Co., Limited. 1913. Pp. 718. Price 10*s.* 6*d.* net.

HYGIENE nowadays includes such a number of subjects that a book with that title invariably means an inconveniently large volume. When, for example, we consider that an adequate treatment of the subject must include, as does the volume before us, discussions upon air and ventilation, water and water-supply, food and dieting, the removal and disposal of sewage, clothing, habitations, personal hygiene, soils and sites, climate and meteorology, the causation and prevention of disease, and disinfection, we realise that considerable difficulty must be found in providing room for the materials within the bounds of a "handbook." Each of these questions well may claim a separate work to itself, but apart from those who want special monographs there is a large *clientèle* requiring the presentation of broad essentials in one volume. In reality, the departmental developments of hygienic questions have been so great as to render impossible an account of the subject complete in a single volume. That is our one criticism of this excellent compilation.

As new editions of standard works are brought out we find that the writers are compelled to omit those former special chapters which dealt with technical details. It would be futile, for instance, to attempt to include now even a *résumé* of the bacteriological refinements which are day by day added to the armamentarium of the bacteriologist in connexion with his methods of examination of foods, water-supplies, and sewage effluents. Nor similarly can it be pretended that a useful account can be given of the latest developments of analytical work applied to the analysis of air, water, and food, without trespassing upon much space which is better occupied with general considerations. These are special departments the importance of which in their bearing upon sanitary science can be instructively indicated, but description of the technique is left to the special volumes. Such appears to us to be the lines upon which a modern text-book on hygiene should be founded, and we welcome the fourth edition of this work because, in our view, it fulfils this definition. Considerations of space have rendered necessary the suppression of the sections on the "Analysis of Air, Water, Food, &c.," and in many other directions prudent omissions have been made. Yet there is retained a most instructive account of general principles written with an observance of modern advances.

The sincerity of the writer's aim, declared in the first edition to be "to digest the information into as small a compass as seemed advisable without sacrificing clearness, and at the same time omit nothing of real importance," receives proof in the care which he and his coadjutor have bestowed upon the revision of the new edition, and in the judicial selection of essential materials.

In regard to the reference to the work of THE LANCET Commission upon disinfectants in the chapter on Disinfection, we should point out that Professor G. Sims Woodhead was responsible for the bacteriological portion of the inquiry only, and

therefore the statement is not correct that (p. 679) "Woodhead also made some chemical investigations as to the actual content in phenol or phenoloids of the different patent preparations on the market, and found that it was possible to arrive at some idea of the disinfectant power of such compounds by these means." As stated in the report, the chemical part of the inquiry was undertaken by Mr. S. A. Vasey, of THE LANCET laboratory, and Mr. J. E. Purvis, of the University Chemical Laboratory, Cambridge.

Spätpsychosen Katatoner Art.

Eine Klinische Studie von Dr. med. MAURYCY URSTEIN, Warsaw. Berlin and Vienna: Urban und Schwarzenberg. 1913. Pp. 440. Price, paper, 16 marks; bound, 18 marks.

IN this monograph Dr. Urstein has described with minutest detail the cases of some 40 patients suffering from varieties of psychosis developing after the age of 40. He finds certain resemblances in all psychoses which make their appearance in the later years of life, whatever be the underlying pathological process or the actual nature of the disease. He directs attention, however, mainly to the group in which the psychosis approximates to the type of catatonia. There are chapters on the influence of the climacteric on the psyche, on the relations between the time of life and the symptomatological type of the psychosis with which an individual may be afflicted, and on the physiology and psychology of old age.

The book is of value chiefly from the documentary viewpoint; the cases are elaborated with a wealth of clinical description that could not be improved on.

Mind and Health: with an Examination of Some Systems of Divine Healing.

By EDWARD E. WEAVER, Ph.D., sometime Fellow in Clark University. With an Introduction by G. STANLEY HALL, Ph.D., LL.D., President of Clark University. New York: The Macmillan Company. 1913. Pp. 500. Price 8*s.* 6*d.* net.

OF making of books on psychotherapy there is no end. It is a legitimate assumption that there is a demand for them, but whether they are intended for the medical profession or for the lay reader, intelligent or otherwise, is not always easy to determine. The terminology of not a few cannot be properly understood, in our opinion, by any but the professed psychologist or physician, yet it not infrequently happens that such books also contain matter couched in language so popular that the impression abides with the medical reader that the volume is not for him. In the preface to the present work we read that "it is especially offered to those, on the one hand, who maintain an exclusive religious healing, and to those, on the other hand, who disdain religious healing of every kind."

The standpoint of the book is frankly the Christian standpoint; and the general outlook is that the time has come for minister of religion, physician, psychotherapist, faith healer, and social worker to put away suspicions of each other's work, to join efforts, and to establish that therapy which will best promote the highest efficiency of the worker for the Kingdom of God. We fully appreciate the reverent spirit that pervades the book, the tolerant atmosphere in which the reader finds himself, and we acknowledge the truth and practical importance of many of its main principles. But with the author's plea for a religious psychotherapy we do not find ourselves in complete agreement, and no coöperation such as the author foreshadows can ever be possible till a common working basis is reached. How that basis can be reached when religious tenets and opinions are as widely divergent to-day as ever they were it is difficult to see. Moreover, while we do not hold that science and religion are inherently antagonistic, a rational psychotherapy must be a scientific psychotherapy, and the tendency of the religious psychotherapist, either from ignorance of medicine or from his particular habit of interpretation, to claim for his religion results which are capable of other explanations is not calculated to further that coöperation for which the author hopes. No physician but rejoices when cures are effected, by whatever method attained; yet the risk of mistake in diagnosis is fully appreciated only by the physician, and we strongly insist that no form of treatment can relegate the importance of complete and painstaking medical examination to the background.

The present volume is characteristic of a certain type of book-making that lends itself to criticism. It is simply packed full of quotations, often pages at a time, from all sorts of writers, mostly American, and it may be said that many of these quotations are noteworthy both for the wordiness and superficiality of thought which they reveal. The author's own contributions to the book are not always couched in intelligible phraseology; for an instance, the following passage, one of many, may be quoted: "The non-personal, non-synthetised experience, that yet achieves some registry in the nervous system, which under special conditions becomes observable as furnishing mental nourishment to a subconscious form of assimilation, is thus the dissociated experience; and the consequences to the intelligence in which such states habitually occur and multiply inevitably affect the entire personal integrity of consciousness." The book contains many loosely constructed sentences cast in language that is nebulous to a degree, effectively concealing what thought may lie behind; the frequent employment of terms in other than their accepted usage, so characteristic of a certain number of American writers, is one against which a protest must again be entered.

Practical Guide to Diseases of the Throat, Nose, and Ear, for Senior Students and Junior Practitioners.

By WILLIAM LAMB, M.D. Edin. Third edition. London: Baillière, Tindall, and Cox. 1913. Pp. 352. Price 7*s.* 6*d.* net.

THERE are many senior students and junior practitioners to whom this new edition of Dr. William Lamb's "Practical Guide to Diseases of the Throat, Nose, and Ear" will appeal, because the author has spared no pains to make the book worthy of its title—a really helpful "guide" to the beginner in the study of these diseases. Whilst the original character of the manual has not been changed, the subject matter has been revised and brought up to date as far as that is possible in an elementary work on a very progressive special department of practice. Several short sections have been added on various practical points, such as oral sepsis, which is still very generally left out of account as a possible cause of disease. Attention is drawn to the risks at times attending the tonsil and adenoid operation. The relative merits of tonsillectomy and tonsillotomy are discussed. To

the part dealing with diseases of the ear a section has been added on the danger signs in ear disease, the importance of which it would be difficult to overstate. Whilst adding new matter the author has not overloaded his pages with information which the student can easily find in any work of reference. The pages have been given up to practical matters, and more particularly to difficulties which the beginner is sure to encounter, and which sometimes receive but scanty notice in systematic works.

LIBRARY TABLE.

Burdett's Hospitals and Charities: the Year Book of Philanthropy and Hospital Annual. London: The Scientific Press, Limited. 1914. Pp. 1055. Price 10*s.* 6*d.*—For many years an effort has been made by Sir Henry Burdett to expedite the date of publication and issue this book to his subscribers, so as to bring it out not later than the first week in February of each year. Hitherto this has been found to be impossible of accomplishment, but with the celebration of the silver jubilee of the publication the editor has succeeded in attaining his aim. Only those who have any experience in compiling publications, the information for which is obtained by letters and schedules from a large number of sources, can appreciate the difficulties with which the editor of a publication like Burdett's Charities has to contend, even though he receives, as no doubt has been the experience here, the hearty coöperation of the persons to whom he applies for assistance. We congratulate Sir Henry Burdett, therefore, on having at last attained the ideal which he has so consistently aimed at. We regret, however, to note that in his preface he tells us that he feels, by reason of his age, that the time has now come when he must relinquish his task, and he expresses the hope that some competent person having a keen interest in the voluntary system of hospitals will come forward and coöperate in the compilation of future volumes, although no remuneration attaches to the office. The work is now so well known and widely used that it is almost unnecessary to describe it beyond quoting the title-page, which describes the book as containing a review of the position and requirements, and chapters on the management, revenue and cost of the charities, an exhaustive record of hospital work for the year, and as a trustworthy guide to British, American, and colonial hospitals and asylums, medical schools and colleges, nursing and convalescent institutions, consumption sanatoriums, religious and benevolent institutions and dispensaries. In the current volume will be found the latest figures from the audited statement of accounts of some 6000 separate institutions for the period ending Dec. 31st, 1912, and there are special chapters dealing with almost every phase of medicine and nursing from the point of view of charity. It is a review of all matters affecting the progress and work of organised charities of every description throughout the English-speaking world, and the complete 25 volumes constitute an encyclopædia of the history and progressive development of voluntary medical charity.

Gould and Pyle's Pocket Cyclopædia of Medicine and Surgery. Second edition. Revised, enlarged, and edited by R. J. E. SCOTT, M.A., B.C.L., M.D. New York. London: H. K. Lewis. 1913. Pp. 732. Price 5*s.* net.—This little book aims to fulfil in regard to the subject matter of general medicine the purpose of rapid reference that the corresponding medical dictionaries fulfil in regard to medical nomenclature. As Gould and Pyle's "Cyclopædia of Practical Medicine," on which the first edition of this work was based, has been recently edited and brought up to date by Dr. Scott, it was deemed advisable to entrust to the same editor the revision of the present work. While there is much that is of value and convenience in the book, we have been unable to find any references under coccus, micrococcus or their specific names, to pneumococcus, gonococcus, staphylococcus, streptococcus, diplococcus, or the causative bacteria or bacilli of various diseases, nor are they mentioned, though pictures of staphylococci, streptococci, and diplococci are given, under bacteriology. The term plasmodium malariæ is not to be found, even under malaria. Trypanosoma and trypanosomiasis and uncinariasis are not given, and even under hookworm disease the micro-organism is referred to only as the hookworm, uncinaria not being named. Ankylostoma, however, has a place. Treponema and spirochæte also find no place, except under syphilis. Stegomyia is not named, even under yellow fever, nor are tsetse-fly and anopheles. Of diseases, kala-azar and tick fever do not appear, and we have found no reference whatever to bacterio-therapy, vaccine-therapy, inoculation therapy, or the opsonic index, to radium or radium therapy, to the cardiograph, hæmatometer, or sphygmomanometer, though catheter and cautery find a place. Under thiosinamine the most useful function claimed for it by some of causing resorption of fibrotic deposits has no mention. There are serviceable tables of arteries, bones, muscles, nerves, tumours, and urinary sediments, to which one of operations would be a sound addition. From the partial list of modern subjects with regard to which we have looked in vain for a reference, we feel bound to consider that, useful as the book might be made, it can hardly be regarded as up to date. It strikes us as a valuable idea inadequately carried out.

Hysterie: Zur Frage über die Entstehung Hysterischer Symptome. By Dr. J. M. RAÏMIST, Leiter der Nervenabteilung des judischen Hospitals in Odessa. Berlin: S. Karger. 1913. Pp. 101. Price 3.50 marks.—In this brochure Dr. Raïmist is concerned with an endeavour to establish a relationship between the type of hysterical symptoms in any given case and the nature of the exciting factors precipitating the hysteria. In many instances, the clinical details of which are given, he can demonstrate a logical, intellectual relation of cause and effect between the trauma, using the word in its widest sense, and the symptoms. In others, he can trace no such connexion, and is forced to conclude that the exteriorisation of an emotional shock may follow lines that could not be foreseen; and conversely, that from the type of symptoms the original psychical lesion cannot always be determined. The author does well to draw attention to the as yet incompletely solved question of the forms which the expression of a psychical trauma may assume.

Research Studies in Psoriasis. Reprinted from the *Journal of Cutaneous Diseases, including Syphilis*, of October and November, 1913. By JAY F. SCHAMBERG, M.D., JOHN A. KOLMER, M.D., A. I. RINGER, M.D., and G. W. RAIZISS, Ph.D. New York: Rebman Company. Pp. 140.—These pages record an exhaustive study of the nature of psoriasis.

Various serum reaction tests are discussed and also details of an investigation are carried out thoroughly from the bacteriological standpoint. In 17 out of 19 cases the ultramicroscope revealed a motile bacillary body; out of 18 cases of other dermatoses, this organism was detected in only three instances. The larger part of the investigation is concerned with the protein metabolism in psoriasis. Complete details are furnished as to the food values of the diet in each patient and the daily quantity of nitrogen eliminated in the urine, the fæces, the perspiration, and the scales shed from the lesions. Two facts stood out clearly during these experimental observations: that the body of the psoriatic patient retained more nitrogen than the normal body, and that the psoriatic lesions increased in severity in proportion to the amount of nitrogen allowed in the diet. A high nitrogen diet resulted in extension of the disease, whereas those patients who were kept on a low nitrogen diet showed marked improvement in the skin lesions, even when no external treatment was employed. It was found on analysis that the exfoliated scales consisted of almost pure protein. The nitrogen retention, however, was greater than could be accounted for by the protein content of the scales, and it persisted even after scaling had ceased. Full references throughout are given, and comparisons drawn with the researches on diet which have been carried out by Voit, Chittenden, Hirschfield, and other experts on nutrition. A bibliography is appended. The headlines of the pages might be usefully altered from repetition of the title of the research to an indication of the page or section contents; with the present arrangement it is difficult to find the points to which reference is desired. An index should also be supplied. Dermatologists will look forward with keen interest to the promised continuation of so complete and painstaking a study of an obstinate disease. Although the authors have not succeeded in discovering the primary cause of psoriasis, they have at least placed on a scientific footing the clinical observation as to the remedial effect of a low protein diet.

JOURNALS AND MAGAZINES.

Archives de Médecine et de Pharmacie Navales.—The November number has a paper by Surgeon Dr. Ondard on the Treatment of Fractured Clavicle by the Method of Surgeon-General Dr. Couteaud, who lays the patient on his back with the arm over the edge of the bed till the fragments are in position, and then the arm is brought to the side and supported by a pillow. This method was practised by Hippocrates and Paulus Ægineta, and 44 successful modern cases are reported, but it entails a fortnight or three weeks in bed.—Fleet-Surgeon Dr. Kergrohen, continuing his survey of hospitals in the Pacific, reaches New Caledonia, and finds in those little visited islands one of the most charming of tropical climates. There is, however, much leprosy; he counts up 150 cases and suspects the total to be twice as many. Of 100 conscripts in 1911 six were lepers. There are two asylums, but seclusion is not compulsory. There is no typhoid fever in the islands; ankylostoma is not mentioned; liver abscess and dysentery are the chief diseases. A case of carbonic oxide poisoning is reported. The patient had been sleeping nine hours in a small room with a gas stove and no chimney; when found he was comatose, cyanosed, breathing was imperceptible, and the pulse could only just be felt. Artificial respiration with oxygen was kept up for 12 hours; at the fifth hour the patient was bled 19 ounces. On the second day he could breathe by himself and swallowed occasionally; on the third day he had Cheyne-Stokes breathing, and moved when his name was called. As the fourth day opened he was offered by his sick-berth steward mineral water, alleged to be champagne. Then it was he first spoke. As he tasted it he said: "Fumiste! c'est du Château Lapompe" ("Holy smoke! champagne! Yes, from the pump!"). He took food the next day, and on the sixth day he was told what had happened as he was puzzling how he came into hospital. His legs were paralysed until the ninth day. He made a complete recovery. The bleeding is thought to have been a most important aid to cure, getting a certain quantity of altered hæmoglobin out of the system and stimulating the new formation of unpoisoned blood corpuscles.—A paper by a Japanese Surgeon-General on Dressing Stations in Battle is translated, in which the author insists that men who are helping the wounded in battle make very little use of stretchers.—Fleet-Surgeon O. Rees' paper on the Temperature of the Human Body and the Cause of Heat Stroke is well translated from the Blue-book on the Health of the Navy.

The Dental Record.—In the February number of this journal Mr. J. F. Colyer contributes a well-illustrated paper on the Abnormalities in Position of the Teeth. He suggests a classification into (1) inherited and (2) acquired, the latter group being subdivided into (*a*) ante-natal or of intra-uterine acquirement; (*b*) parturient, acquired at the time of birth; and (*c*) post-natal. The author quotes cases in which there is reason to think that the dental deformity was directly attributable to injury of the jaws during labour, and he shows the models of two cases of difficult face presentation in which the mandibular teeth occlude behind their normal position with the upper teeth. Reference is made to three mandibles showing the dental deformity seen in children that have been addicted to thumb-sucking at birth; the three specimens show a curious inward bend at the neck of the condyle. The relationship of the maxillary-premaxillary suture to irregularities of the teeth is discussed, the author stating that crowding of the deciduous teeth is usually associated with an early closure of the suture.—An interesting case of a Follicular Odontome in the Mandible in Connexion with the Right Canine is described by R. S. Sanderson. The cyst extended from the first molar on the right side to the first molar on the left side.—There are translations of papers by Dr. Deplace on the Radical Cure of Dental Fistula and Dr. Alfred Kantorowicz (Munich) on the Classification of Diseases of the Pulp.

The British Dental Journal in its issue of Feb. 2nd contains a valuable communication by Professor Bolk, of Amsterdam, on the Supernumerary Teeth in the Molar Region of Man. The author has the advantage of a collection of more than 35,000 skulls, and from this number he has been able to separate 350 maxillæ and 300 mandibles with complete and entirely perfect dentures; in addition he has collected 3000 well-preserved specimens of each tooth of the human dentition. In the molar region when an additional tooth is present it may be situated on the buccal aspect of the molars or posterior to the last molar. The extra tooth situated on the buccal aspect of the true molars he names "para-molar"; the extra tooth posterior to the third molar "disto-molar." The two types he considers as distinct in origin, and states that the "disto-molar" is more rarely met with than the "para-molar." The "disto-molar" is always in a rudimentarily developed form, and is at times compressed in a mesio-distal direction; more often it is a more or less cylindrical tooth. It is not always regularly situated at the back of the third molar but is frequently displaced inwards. The "para-molar" never consists of more than two small ill-developed cusps, and is usually situated between the second and third molars on the external aspect; occasionally a "para-molar" may be found between the first and second molars, and in a few examples two teeth may be present. In the mandible the presence of a "disto-molar" is an extremely rare anomaly, and the author has not seen a case of a really independent "para-molar" in the mandible. For the additional cusp seen at times on the external aspect of the maxillary molars he suggests the name of "para-molar tubercle," and he considers that the tubercle is a concrescence of a "para-molar" with a molar. In the mandible a "para-molar tubercle" is rare, but the "para-molar" root is common. The paper is of great interest, and well worthy of perusal by those interested in the subject of variations of the teeth.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

CHÂTEL GUYON NATURAL MINERAL WATER.

(AGENCY: INGRAM AND ROYLE, LIMITED, BANGOR WHARF, 45, BELVEDERE-ROAD, LONDON, S.E.)

Châtel Guyon is a well-known health resort and watering-place in the Auvergne. It is situated at 1300 feet above sea level, and the journey from Paris occupies about seven hours. There are several mineral springs in the district which are thermal. The usual routine of treatment by means of baths and drinking is followed. According to our analysis the water is not excessively mineralised, and the salts of importance appear to be the chlorides of magnesium and sodium, while it shows an alkaline reaction due to a small quantity of carbonate of soda. The water exhibits slight effervescence due to carbonic acid gas. Radio-activity is not reported. According to our analysis, there were present in grammes per litre of the water the following salts: Magnesium chloride, 1·60; sodium chloride, 1·90; sodium carbonate, 0·13; calcium carbonate, 1·46; and calcium sulphate, 0·53. The water has repute in diseases of the gastro-intestinal canal, in catarrh and portal congestion. The course amounts to an irrigation of the alimentary tract, certain conditions being relieved by regular administration, in which some aid is afforded by the chlorides and alkaline salts present. The water is peculiarly clean upon the palate. There were decided traces of iron present, and some claim is made in regard to the value of the water in anæmia. The specimen we examined is drawn from the source Gubler, which is the one selected for exportation in bottle.

SEMPROLIN PREPARATIONS.

(WILLIAM BROWNING AND CO., 4, LAMBETH PALACE-ROAD, LONDON, S.E.)

An interesting series of emulsions has been submitted to us under the name of "semprolin" which have for their basis petroleum oil purified and refined to meet therapeutic requirements. They afford a satisfactory means of administering petroleum with the object of getting its laxative effect. In addition, however, certain medicaments are contained in the petroleum emulsion which may be conveniently administered in this way. Amongst these, for example, are emulsions containing hypophosphites, iron, or malt and iron, or lecithin, or guaiacol with and without potassium iodide, or glycerophosphates, or bismuth and pepsin, the pharmacological advantages of all of which will be understood. We have examined these preparations chiefly in regard to the claims made as to the quantities of oil present, and we found that in the medicated preparations 40 per cent. of pure petroleum oil was present, while in semprolin emulsion 60 per cent. of pure oil was extracted, using ether as the solvent on the dried evaporated emulsion. The emulsion containing lecithin gave on extraction with ether petroleum of a yellowish colour due to the lecithin. This on suitable treatment gave abundant evidence of phosphates as hydrolysed products of the phosphatide. The preparations evidence care and skill in their manufacture and afford a convenient means of administering pure petroleum.

POLYLACTOL.

(THE BAYER COMPANY, LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

The constituents of polylactol are described as being meat albumoses, organic iron, maltose, and galactose. Our analysis confirmed this description. The preparation is completely soluble in water and its taste is satisfactory. Our analysis gave the following results: moisture, 0·80 per cent.; mineral matter, 3·20 per cent.; proteoses, 30·87 per cent.; sugars by difference, 65·13 per cent. The ash was brown in colour owing to the presence of iron. Its amount proved to be 1·20 per cent. calculated as ferric oxide, Fe_2O_3. The iron is present in organic combination. The chief therapeutic claims for polylactol are that it is a tonic and galactagogue for nursing mothers. It obviously presents specific nutrient properties and the presence of iron in organic form is meant to meet the event of "iron poverty" both in regard to mother and child.

SOUTH AUSTRALIAN BURGUNDY—VICTORIA BRAND.

(THE VICTORIA WINE COMPANY, 12-20, OSBORN-STREET, LONDON, E.)

Year by year we have an improvement in the character and quality of the colonial wines sent to this country. It is an advantage that in the State of South Australia a guarantee is given by the Government as to the wine being genuine. This State is advancing rapidly in the production of wines of good quality. On analysis this burgundy gave the following results: alcohol by volume, 17·17 per cent.; extractives, 2·85 per cent.; mineral matter, 0·30 per cent.; volatile acidity reckoned as acetic acid, 0·25 per cent.; fixed acid reckoned as tartaric acid, 0·50 per cent.; and sugar, 1·66 per cent. The wine is round and full in character, the flavour resembling the French burgundy type. It is, however, somewhat sweet compared with French burgundy, and the analysis shows a larger proportion of sugar than is usually contained in the French wine. The colour is a rich red. The wine was in sound condition and free from excess of acid. Examination for preservatives other than alcohol gave a negative result. The wine is genuine and its price is moderate.

TRIVALIN (OVERLACH).

(THE SACCHARIN CORPORATION, LIMITED. 10, ARTHUR-STREET, LONDON, E.C.)

Trivalin is described as a substitute for morphia salts without toxic effects on the heart, respiratory centre, or digestive system. It, however, contains morphia, but the proportion of caffeine and cocaine present, chemically combined with valerianic acid, is said to act as an antidote to morphia, while the effects as an anodyne are retained. The drugs present are regarded to be in pharmacological proportion. We examined the preparation chemically and were able to confirm the presence of the three alkaloids. As dispensed trivalin contains in 100 cubic centimetres 0·370 gramme of caffeine valerianate, 0·506 gramme cocaine valerianate, and 1·935 gramme morphia valerianate. A single dose is 1 cubic centimetre.

LITERARY INTELLIGENCE.—Messrs. W. B. Saunders Company announce for early publication "The Principles of Pathologic Histology," by Frank B. Mallory, M.D., Harvard Medical School, Boston, and a small volume entitled "Diagnostic Symptoms in Nervous Diseases," by Ed. L. Hunt, M.D., of the College of Physicians and Surgeons, New York City.

New Inventions.

A NEW DRAINAGE-TUBE INTRODUCER.

THE drainage-tube introducer, here illustrated in its two forms, is referred to in my paper read on Feb. 10th before the Surgical Section of the Royal Society of Medicine, entitled "On the Most Efficient Method of Drainage in Septic Peritonitis."[1] It is intended for rectal, vaginal, or loin drainage. The drainage-tube introducer is in the shape of a well-known form of periosteal elevator, with one end slightly curved, terminating in a blunt point, for perforation from within out of the bowel, vaginal posterior cul-de-sac, or the loins, in the case of the routine subphrenic drainage recommended in all cases of septic peritonitis, and as a preventive of this in immediate suture of gastric or duodenal ulcers, &c. The other extremity of the instrument is bulbous, with a depression between the bulb and stem. A good-sized drainage-tube, No. 16, red rubber tubing, of ¼ inch external bore and 5/16 inch internal bore, corresponding with the cylindrical shank of the instrument (but which can be less than this if desired), is fitted over the bulbous end, which has a thread on it to prevent the tube slipping off. The free edge of the tubing lies in the depression beyond the bulb, so that no obstruction or resistance is perceived in introducing it from within out through any structure — e.g., the bowel, vagina, or abdominal wall. For further details of its use the reader is referred to the text of the original paper when published in the *Transactions of the Royal Society of Medicine*.

FIG. 1.

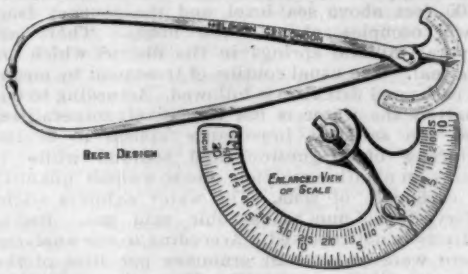
FIG. 2.

The drainage-tube introducer, which has been very satisfactorily manufactured according to my designs by Messrs. Allen and Hanburys, Wigmore-street, London, W., is 9¾ inches long, the diameter of the cylindrical shaft being ¼ inch. Fig. 1 represents the ordinary form of the instrument. Fig. 2 is another form, with hollow shank for accessory employment in emergencies as an irrigator. In both forms of instrument there is a large eyelet, permitting of its use as a serviceable pedicle-needle, if desired. From its general form, the drainage-tube introducer can also be employed as a periosteal elevator. The inconvenience and expense of a multiplicity of instruments has thus, to some extent, been met in this addition to the surgeon's armamentarium by giving to the new weapon multifarious uses.

Harley-street, W. HENRY CURTIS, F.R.C.S. Eng.

AN IMPROVED PELVIMETER.

THERE is much valuable information to be gained in the regular use of a good pelvimeter in obstetrical practice. Certain complications of labour may be foreseen by employing this diagnostic aid, and be dealt with intelligently. The French type of pelvimeter has these advantages over other forms: simplicity, lightness, compactness, and ease of manipulation. It is adaptable to all the external measurements in common use, and the principal internal ones also. Dr. T. M. Eden has strongly recommended it. However, its usefulness has been limited by the unfortunate lack of agreement regarding a standard scale, some obstetricians using the English, others the French system. In order to extend the scope of this pelvimeter I have modified and improved it so as to include both metric and English scales, and have added to its simplicity by the removal of several ornamental grooves. The complete instrument now consists of but two parts which are readily cleaned. The scales are very easy to read. The apparatus needs but a single investigator. A new and important use has been included and should be of great service to any person collecting a series of obstetrical measurements from many sources, and wishing to put all of them in the same scale; for by simply placing the indicator at the figure given the conversion into the other scale may at once be read off without appreciable effort or calculation. The recent excellent article by Dr. Daniel Dougal in the November issue of the *Journal of Obstetrics and Gynæcology* further emphasises the value of



the information gained by the routine use of the pelvimeter in obstetrical cases. The initial cost of the instrument I have designed is small, and I hope many will be induced to use this instrument of precision, and so learn ascertainable facts, thus placing obstetrics a degree nearer to being an exact science.

The instrument has been made to my designs by, and may be had from, The Holborn Surgical Instrument Company, 26, Thavies Inn, Holborn-circus, London, E.C.

Toronto, Canada. GORDON GROTE COPELAND, B.A., M.B.

OPENING OF THE CLINICAL LABORATORY, ADDENBROOKE'S HOSPITAL.—On Feb. 13th the new clinical laboratory, founded by Mrs. Bonnett in memory of her son, the late John Bonnett, was formally opened. This laboratory will be a valuable addition to the resources of the hospital, which up to the present time has been dependent on the university authorities, who have allowed the clinical investigation work of the hospital to be carried out in the medical schools. The proceedings began with a luncheon in the dining-hall of Downing College. The Master, Professor F. Howard Marsh, was in the chair, and about 50 members of the Cambridge Medical Society were present. The Master, in proposing the toast of Mrs. Bonnett's health and the memory of John Bonnett, referred to the long period of service John Bonnett had given to the hospital, to his estimable qualities, and to the generosity of his mother in building and endowing a clinical laboratory to keep his memory alive. Dr. Walter Malden responded on behalf of Mrs. Bonnett. An adjournment was then made to the laboratory, which is situated at the north end of the hospital. It consists on the ground floor of a cold storage mortuary with freezing plant, a post-mortem room, a mortuary chapel, and a waiting-room for friends. A doorway on the right cuts off the laboratory from the mortuary. The laboratory comprises a dark room for photography and spectroscope work, a chemical laboratory, and a room for sterilising and washing up. Upstairs there is a small store-room, a room for histology, and a large bacteriological laboratory. Sir Clifford Allbutt, Regius Professor of Physic, in declaring the laboratory open, remarked that such institutions were a necessary part of a modern hospital, and related his early endeavours to get such a laboratory started. He dwelt on the necessity for a close connexion between pathological investigation and the clinical work in the wards, and the danger of the study of pathology becoming too academic if divorced from the wards. Professor Sims Woodhead, endorsing Sir Clifford Allbutt's remarks, emphasised the value of the addition to the resources of the hospital which had been provided by Mrs. Bonnett's generosity.

[1] See summary on p. 533 of present issue.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 21, 1914.

The Modern Treatment of Fractures.

THE practical progress of medicine could hardly be better demonstrated than by a consideration of the enormous change of opinion which has taken place during the last 10 or 20 years with respect to the treatment of fractures. Mr. E. W. HEY GROVES'S Hunterian lecture, delivered before the Royal College of Surgeons of England, the conclusion of which appears in THE LANCET to-day, makes this point, among others, very clearly. During the educational period of most members of the medical profession who have arrived at middle age the routine method of treating all fractures was immobilisation by splinting, the limb being placed in what appeared to be its correct position. The splinting was elaborately designed to maintain the fragments in their natural site, various methods being adopted, either by the use of shaped splints or by extension with weights, to prevent the occurrence of faulty union. Under this routine it is undoubted that a great many cases of simple fracture ended with perfectly satisfactory results, but it is equally undoubted that in many other cases deformity, great or small, remained, while functional disabilities ranged from the trivial to the extremely important. As a matter of fact the surgeon did not know as much as he thought he knew as to the position of the fragments. For when he considered them to be in correct alignment after the process of setting, they were in many cases far from being so fortunately placed. When the fragments of the bone were again arranged according to normal form, muscular action too often successfully antagonised all attempts to maintain the fragments in accordance with the surgeon's design, and this however firmly the splints were adjusted. There was further the obvious objection to the prolonged maintenance of a limb in splints that the muscles, under rest and bandages, might be so seriously affected as to be unable later on to fulfil their functions properly upon the long immobilised neighbouring joints.

Further, in the complicated and delicate structure of the tissues in the neighbourhood of a fracture abnormal conditions are produced as the result of the injury, which it is often impossible for even the closest observer to estimate with complete accuracy. The splints were adjusted with no close knowledge of the exact condition of things beneath the surface, and it is not surprising that in spite of every care the outcome of treatment was not always in accordance with the surgeon's designs or the patient's hopes. In 1895 the discovery of the Roentgen rays opened out to surgery a possibility of the accurate treatment of fractures which was, however, not taken advantage of at once. For it was not until three years later that it became a recognised part of the treatment of simple fractures to take a skiagram of the injured limb. The first use, as far as the treatment of fractures is concerned, to which the Roentgen rays were put, was to show by the inspection of bones which had been fractured how imperfect the results of the recognised methods of treatment too frequently were. And while this point was under consideration scientifically, the reality of its existence was brought home disagreeably to some members of the medical profession by the fact that their patients found themselves provided with a most powerful weapon when they chose to allege malpraxis. In some cases, though we are glad to know that they have been rare, patients brought actions for damages against the surgeon as the result of seeing the skiagrams of their injured limbs. As a rule it was found that the seeming ill result of the treatment, for which the action was brought, was not the fault of the surgeon at all, and it might indeed be the direct consequence of some act on the part of the patient; but it was not always easy to make this clear to the lay mind. The new risk under which surgeons lay counted for something in making them willing to listen to what, when they were first advanced, were revolutionary principles. This new teaching was that the proper treatment for many simple fractures, owing to the risk of faulty union under splinting, was the opening up of the fracture and adjustment by mechanical means. In the case of the fractured patella this had long been done, and aseptic surgery having abolished the dangers attending compound fractures, it is not surprising that there should be a general feeling that in proper cases wiring or plating might be adopted, and operative fixation be secured in other fractured bones.

But what are the circumstances dictating operative interference, and what are the preferable methods of technique? Mr. HEY GROVES quotes in his lecture the admirable document emanating from the Committee of the British Medical Asssociation appointed to report on the treatment of simple fractures. This was published in 1912, and contained some valuable conclusions based upon an analysis of over 2900 cases, and reinforced by appendices contributed by great authorities upon different methods of procedure. The late Dr. LUCAS-CHAMPIONNIÈRE, of Paris, Sir ARBUTHNOT LANE, M. LAMBOTTE, of Antwerp, Dr. FRITZ STEINMANN, of Bern, the late Dr. BARDENHEUER, Dr. GRÄFSNER, and Dr. SHRECKER, of Cologne, all contributed their personal experiences, with the result that the medical profession had placed before them an all-round and unbiased guide; and the fact at once became apparent that for the present no dogmatic rules must be

laid down. As Mr. HEY GROVES says, "the most conservative surgeon would not allow a fractured patella with much displacement to go unsutured, nor would the most ardent advocate of operations suggest an open attack upon a subperiosteal fracture of the fibula without displacement." This example is given to show that in some cases operative interference has little risk and yields such admirable results that it must be employed; and that in other cases the results are so good without operative interference that such measures would be undreamt of. But this is not the only way in which the necessity of treating every case on its own merits can be indicated. It is perfectly easy to see that in some subjects an operation which is not entirely necessary had better be avoided for general reasons, and that at other times the accident may occur in an excellent subject for operation, but in an environment where the special treatment cannot be provided by a surgeon familiar with a difficult and anxious technique. There is no general answer to the question whether the non-operative or operative treatment of fractures is the better, but the valuable work that is being done will help us enormously to clear up our doubts. It must be borne in mind that it is not the cosmetic appearance of the bone, as shown by a skiagram, that really counts in the consideration of the question of the success of the treatment of a fracture, but the functional value of the limb afterwards; and the Roentgen rays have shown us clearly that perfect functional results may accompany the healing of a fracture where there is no small degree of anatomical deformity. Yet the more nearly the surgeon attains to a perfect anatomical result the more likely is the functional result to be perfect also; so that there can be no doubt that the surgeon should do his utmost to obtain as exact a reduction of the fragments as can be. When he is convinced that he cannot by other means replace the fragments the question of recourse to operative procedures arises. Undoubtedly different surgeons will judge differently as to the urgency of individual cases, but nearly all surgeons are now much more ready to operate in fractures than they were even a few years ago.

Bertillonage.

M. ALPHONSE BERTILLON, the great worker in anthropometry, has died at the age of 61. He had been an invalid for many years, and some time ago underwent transfusion, for which his brother, Dr. JACQUES BERTILLON, the director of the Bureau of Sanitary Statistics of the city of Paris, furnished the blood. The beneficial result was, however, only temporary. ALPHONSE BERTILLON was a son of Dr. LOUIS ADOLPHE BERTILLON, one of the founders of the School and the Society of Anthropology at Paris. He began his career by researches in ethnography, his first book being entitled "L'Ethnographie Moderne des Races Sauvages." It was in relation to this that he worked out his accurate method of mensuration of the various parts of the human body and elaborated a mode of classification of these documents which gave rise to the establishment of the anthropometric records (*fiches*) of identity of criminals, a department created at the prefecture of police in Paris in 1880. M. BERTILLON never ceased to add to the completeness of his method by the addition of new signs, and particularly by the adoption of the examination of finger prints, a method borrowed from the Chinese, and elaborated in this country by the late Sir FRANCIS GALTON, Mr. H. FAULDS, and Dr. J. G. GARSON. By his anthropometric studies, though he was not a medical man, M. BERTILLON allied himself to medicine.

M. BERTILLON'S method is often spoken of as though it relied for its efficacy on dactylography. In point of fact, "Bertillonage," as it has been termed, depends on the application to the bones of man of two principles comparable to those which form the basis of the method of identification by means of imprints of the papillary ridges on the fingers. These principles are: (1) that no two skeletons are ever identical in their measurements; and (2) that certain bone measurements remain the same through life. Starting from these principles M. BERTILLON divided the population of the world into 243 classes, which together represent every possible combination of the following five sets of bone measurements: (1) length of head; (2) breadth of head; (3) length of middle finger; (4) length of left foot; (5) length of forearm from the olecranon to the extremity of the middle finger. Each of these classes was again divided into three subclasses by arbitrary limits representing measurements respectively average, above the average, and below the average. The arbitrary figures by which M. BERTILLON defined the limits of his average term in bone measurements could not have been arrived at save as the result of immense toil and experience. The method, after its enthusiastic introduction by the French criminal department, was adopted more or less universally among the civilised nations. It will be remembered that in 1894 the present PREMIER, then Secretary of State for the Home Department, appointed a committee to inquire into the value of the anthropometric method of identifying criminals, with the result that the Commissioners accepted it in the main, combining it, however, with GALTON'S system of identification by finger prints, founded on the fact that the patterns on the papillary ridges of the tips of the fingers and thumbs are persistent throughout life and show in every individual an infinite variety of design.

The essential difference in operation between BERTILLON'S anthropometry and GALTON'S finger-tip identification lies in the fact that the finger imprints can be taken by any person of average intelligence, but require a highly skilled person to interpret them. Anthropometric measurements, on the contrary, have proved to be very difficult to

secure with accuracy, even with perfect instruments, but are comparatively easy of interpretation. After some years of testing, consequently, "Bertillonage" was in 1900 finally dropped in Great Britain, the chief causes of its supersession being the costliness and liability to derangement of the necessary instruments, the necessity for expert measurers to use them, and the frequency with which, in spite of the greatest care, errors of measurement were found to occur. Since experts must be employed with either system, it was found better to retain a few at headquarters to interpret the records of dactylography, which can be taken anywhere by persons of average intelligence and forwarded for interpretation, than to supply the services of the experts all over the land to obtain osteological data, even though, when taken, they are comparatively easy of recognition.

The Control of Measles.

AT the meeting of the Medical Officers of Schools Association in May last Dr. JAMES KERR initiated a valuable discussion on the Control of Measles. Dr. KERR'S address has now been printed,[1] together with the discussion, and the pamphlet forms a comprehensive survey of the problem as it affects this country. It seems to be agreed that "control," in the sense in which it can be applied to scarlet fever, is impracticable. Public health measures, therefore, of the routine type associated with other infectious diseases are not likely to prove of much service. And it is to this fact that we look for the explanation of the complaint that notification is said to be of little value. Notification *per se* does not help us as much with measles because of the well-known fact that measles is most infectious prior to the appearance of the rash and before anything but a guess can be made as to the nature of the illness. But, as has been pointed out by Dr. C. J. THOMAS and other observers, a knowledge of the existence of cases of the disease can be of the greatest possible value if it leads at once to the medical supervision of each case. By proper medical care the mortality and evil sequelæ of measles may be reduced to a minimum, as is well brought out in the figures below contrasting the measles mortality in Aberdeen, where there is no organised effort to combat the disease, with the position in Willesden, where Dr. WILLIAM BUTLER, the medical officer of health, has made strenuous efforts in this direction. In the age-period 1 to 2 years the case mortality in Aberdeen is precisely double that in Willesden, and while in the age-periods from 2 to 3 and 3 to 4 the figures nearly approximate, the advantage is always with Willesden. During the first year the case mortality in Aberdeen is 13·9 against 2·8 in Willesden; and over the whole of the first four years the ratio is 6·5 in Aberdeen against 3·0 in Willesden. Much the same proportion exists in the fourth year of life, while from 5 years and upwards the case mortality is 0·5 in Aberdeen, against 0·3 in Willesden.

How a knowledge of the presence of measles cases should be obtained is another question, but it is significant that Dr. BUTLER, being medical officer to the Education Committee at Willesden, was entirely dependent on notifications coming from the schools. Dr. THOMAS, on the result of whose five years' investigation of measles in Woolwich the present regulations of the London County Council with respect to this disease are based, spoke strongly against school closure, one important reason against this procedure being that it deprives us of a knowledge of the incidence of the disease, and hence lessens our power of helping to combat the disease. A glance at the chart, illustrating Dr. KERR'S paper, of the crude death-rates for measles, scarlet fever, and diphtheria in London since 1885 shows a fall in the last two illnesses and a lesser fall in measles. This is no doubt largely due to improved hygiene, though the possibility of a change of type in disease is recognised by public health authorities; but in the case of measles the fall is markedly less than the fall in the other two diseases. Nevertheless, it seems agreed that the chief hope of combating measles lies in what Dr. KERR calls "improvements in regard to habits of life, housing, and space to live." Incidentally a strong protest should be entered against the bad hygienic conditions in which measles is nursed in many of the public schools. The relatively harmless character of the disease among better-off children shows this point clearly, and some who contributed to the discussion were of opinion that social condition was much more important than age as affecting the gravity of measles. To escape measles altogether seems chimerical, and many speakers were against the effort unduly to postpone the disease. Dr. KERR allows that it would probably not be a loss in the public health sense if all children could pass through measles by the age of seven; but the awkward thing is that the case mortality is terribly high in infancy—a fact which makes it clear that postponement of the attack is of the greatest possible value.

The education of parents in regard to methods of treatment of measles, an adequate medical treatment of all cases, including a more scientific and aseptic treatment, and hospital isolation for severe cases, are obvious proposals to meet the situation. Notification, whether from school, parent, or doctor, is useful only if it serves to act as the alarm bell calling up medical help in treatment. Dr. C. E. SHELLY, in summing up the discussion, suggested that we might obtain other useful hints by pushing our clinical observations further, asking incidentally, what is the pathology of Koplik's spots? If investigation along the indicated lines gave us some means of making an early diagnosis the problem would be simplified. But in view of the fact that it appears beyond our skill to prevent

[1] London: J. and A. Churchill. Price 1s. net.

the possibility of infection, the problem becomes one rather of deliberately regulating the age at which measles shall occur than of attempting to prevent it altogether. The possibility of vaccination against measles was tentatively suggested, but not received encouragingly.

Annotations.

"Ne quid nimis."

THE ADMINISTRATION OF THE PHARMACY ACTS.

THE most satisfactory feature of the annual report of the Registrar of the Pharmaceutical Society, which was presented to the council at the February meeting, is that section of it which shows the numerical strength of pharmacy. The report issued a year ago revealed a falling off in the number of qualified persons, and for several years the growth of the Register had been very slow and the number of candidates for the qualifying examination disappointingly small. The outlook was, in fact, not altogether hopeful and there were some who prophesied that before long something drastic would have to be done to reinvigorate the pharmaceutical business. It is evident, however, from this year's figures that the period of depression was only a passing phase, for the current Register of Chemists and Druggists contains 278 more names than last year's, the total number of registered persons being 16,608. There has also been a substantial increase in the number of registered apprentices, which is a promising sign. The membership of the Pharmaceutical Society numbers nearly 8000, which is 1500 more than ten years ago. The report contains some interesting details concerning the work involved in the administration of the penal clauses of the Pharmacy Acts. This is a much heavier task than it was a few years ago, partly no doubt because of the obligations imposed upon the Society by the Poisons and Pharmacy Act, 1908. Under this Act a new class of poison-seller was licensed to deal in agricultural and horticultural poisons, and it is required that the certificate of qualification of the chemist by whom a pharmacy is conducted shall be exhibited in every shop. Last year over 4000 shops were inspected with a view to ascertaining if the certificate were duly exhibited, and as no statement is made to the contrary it is probably correct to assume that on the whole the provision, which certainly tends to facilitate the administration of the Acts, is properly observed. In its efforts to check the sale of poisons by unqualified persons and other irregular practices the Society's law department investigated last year 1619 cases of alleged infringement, or 250 more than in the previous year. In 306 cases—as against 238 in 1912—it was found necessary to institute proceedings against the offenders, and it is worthy of note that the council did not lose a single case. As in previous years, the class of offence which seems to be most common among unqualified persons is the dual one of keeping open shops for the sale of poisons and selling poisons, practices which are contrary to Section 15 of the Pharmacy Act, 1868, the penalty for each offence being £5, recoverable through a county court. In some cases proceedings were instituted against persons who had failed to observe the statutory precautions in selling poisons and in others against non-registered persons who had used one or other of the pharmaceutical titles reserved for those who have passed the qualifying examination. In several instances the council commenced proceedings against chemists who used the letters "M.P.S.," thereby implying that they were members of the society when such was not the case. In 117 cases the offenders against whom proceedings were instituted were unqualified drug store proprietors, and in 70 limited companies trading as chemists; there were also 39 chemists among the defendants, and the remainder included one ironmonger, one grocer, one pawnbroker, one oilman, one stationer, one confectioner, and one general storekeeper. In five cases of alleged infringement which had been reported it was found upon analysis that the poison asked for had been omitted from the articles purchased, and proceedings could not therefore be taken under the Pharmacy Acts; but in one of these cases a person who had sold a preparation labelled "paregoric" (which contained no opium) was proceeded against under the Merchandise Marks Act and convicted for selling an article to which a false trade description was applied. Another interesting feature of the report is the statement that the register of pharmacists who are superintendents of joint stock companies trading as chemists contains 605 names, an increase of nearly 150 on the previous register. Since the Insurance Act came into operation there has been a rapid growth in the number of limited companies formed to carry on the business of pharmaceutical chemists, and hence the increase in the number of names in the register of superintendents. It is impossible to form an estimate from these figures of the number of chemists' shops under the control of the companies, as some of them have many branches, but it is obvious that company trading is becoming a more and more important factor in pharmacy.

SIR WILLIAM BLIZARD.

THE contrast between the present and the past of a century ago is exemplified in nothing more strongly than in the manners of the medical profession then and now. In the early part of the last century pompousness verging on absurdity characterised the official leaders of the profession both in their acts and speeches, while a biting sarcasm, sometimes quite witty and sometimes laboured to futility, which to-day would lead to libel actions, was prominent in the medical press. Official demeanour found its great representative in Sir William Blizard, of the London Hospital, who at the age of 70 or so, was Master of the English College of Surgeons: humorous invective flourished in the leading articles of THE LANCET. When at a still more advanced age Blizard was President of the College in 1824, an article appeared in these columns headed "The Foreign Journals, and Sir W. Blizard's Horror of Hats," a modern reproduction of which would be quite outside our decorous range to-day. After paying a very qualified compliment to Abernethy, whom he accuses of swearing profanely, and a very warm compliment to Sir Astley Cooper, the writer ranges down the catalogue of prominent contemporary surgeons until he comes to Sir William Blizard, whose peculiarity it seems to have been to preface every ceremony at the College by asking the Members present to take off their hats. "We remember an observation of another ornament of the profession,

Sir Lucas Pepys, that if he had a failing in life it was an overweening passion for chicken broth. Sir William's besetting propensity seems to be a passion for desiring the Members of the College of Surgeons *to take off their hats!!* Let him take a lesson from an anecdote of the ancestor of the *Prince de Levi*." This ancestor, the article continues, is represented in a pedigree from the Flood downwards as standing next the Virgin Mary, from whose mouth a scroll issues inscribed with the legend, "*Mon cousin, mettez le chapeau.*" Sir William's punctiliousness in the matter of hats was evidently regarded as absurd by a generation that not only in Parliament, but in many places of assemblage kept on its hat partly to avoid draughts, partly also to assert the independence of free-born Englishmen. To us it would appear strange to see a learned assembly hat on head. Quite in the manner of a past age was Blizard's stately procedure after the judicial hangings of the time. The College owned a house in Cock-lane, whither "the surgeons' mob," so often referred to in the *Newgate Calendar*, were in the habit of bringing the corpses of criminals, newly hanged at Newgate. Sir William Blizard, when President of the College of Surgeons, we learn from Dr. Norman Moore, attended at this house in full Court dress to receive the bodies from the hangman; and the contrast between the President's elaborate costume and formal manner and the surly shabbiness of the executioner has been described by Professor Owen, who witnessed the scene, as ghastly but almost ludicrous. Owen's father-in-law, William Clift, Hunter's famous assistant, and Conservator of the Hunterian Museum of the College, also describes these scenes, and has left to posterity, in the College library, a number of curious water-colour sketches of the hanged subjects. During many years at the close of his long life Blizard used to return to his country house at Brixton, after the College examinations were over, well armed with pistol and hanger. Guthrie, the sardonic army surgeon, who was twice President of the College, one day found the sword in the secretary's office, and remarked to Sir William that it did not appear to be often drawn and must be getting rusty. Whereupon, the ancient President flourished the sword and cried out, "I am ready to face the devil with it." "Well then, Sir William," came the droll answer, "in that case I think you should certainly have it put in your coffin." At his advanced time of life Sir William Blizard had begun to fail as an operator, and it was even hinted that patients died because of his lack of skill. There was point in Guthrie's sarcasm, which rings so strangely in our ears to-day, that "Wakley's agitation for medical coroners was greatly owing to Blizard's senile failures and the deaths therefrom resulting." The Wakley in question, the founder of THE LANCET, was coroner for Middlesex.

SUBCUTANEOUS EMPHYSEMA ORIGINATING DURING PARTURITION.

IN the *Australasian Medical Gazette* for Dec. 27th, 1913, Dr. H. Gilbert, of Adelaide, records an example of an unusual complication of labour, which, though alarming to the patient, is of little prognostic import. His patient, a primipara, aged 22, was admitted to hospital after being in labour almost 48 hours. Six hours after her admission he was called to the hospital because the pains were going off and the patient's face and neck were swelling up rapidly. The pulse-rate had risen from 88 on admission to 100, and she was readily delivered, with the aid of instruments, of a fully developed stillborn child. The appearance of the patient was very striking, the curves of the neck being almost obliterated by the swelling, which gave her a curious frog-like aspect. Dr. Gilbert at first ascribed this to œdema from straining or from nephritis threatening eclampsia; but examination of the chest gave the key to the mystery, for crepitant sounds were heard everywhere until obliterated by firm pressure with the stethoscope. This crepitancy was traceable over the whole of the face and neck, even into the eyelids and lobes of the ears, and downwards as far as the level of the nipples and to the inferior angles of the scapulæ. It appeared earlier and extended further on the right side than on the left. There was some respiratory distress with frequent cough lasting two days after delivery, but examination of the chest revealed no evidences of pneumothorax or other pulmonary lesion. The emphysematous areas were slightly tender, probably from distension of the skin. It appears from monographs of writers who have collected records of cases, numbering over a hundred altogether, that the condition owes its origin to rupture of air vesicles at the root of the lung, the air escaping beneath the visceral pleura to the anterior mediastinum and thence to the neck and chest. Some writers, however, seem to think the lesion lies in the upper reaches of the respiratory tract. The patients are always primiparæ, and there is a history of strong straining efforts during labour, favoured by resistance, as in the case of a large child or a small pelvis. Pain is sometimes noted in the region of the seventh or eighth rib. Recovery is the invariable rule.

THE RATIONAL USE OF TUBERCULIN.

IN view of the doubts which at present exist as to the value of tuberculin in the treatment of pulmonary and other forms of tuberculosis, a reasoned explanation of the basis of such a procedure by one of the leaders of tuberculin therapeutics deserves careful study. In the February issue of the *Edinburgh Medical Journal* Professor Edmond Béraneck, of Neuchâtel, explains the ideas on which his method is founded. The means of defence against the tubercle bacillus may, he states, be divided into two parts—the antibacterial substances and the process of elimination of necrosed tissue and cicatrisation of the injured part. The cells respectively concerned may be called the "protective" and the "reparative" respectively, and rational treatment must be directed to stimulating especially the protective elements. This may be done by educating the cells by inoculation of attenuated or dead bacilli or their toxins. Now the bacilli growing in the body already produce toxins, and it is irrational merely to inject more of these; yet, according to the prevailing theory of the essential unity of all tuberculins and tuberculous toxins, this is what is done by injecting tuberculin. Professor Béraneck holds that the poisons formed in the body differ from those obtained in culture media. In support of his view that such differences may exist he shows that the toxins present in his broth cultures of the bacilli are soluble in water, whereas those which he extracts with orthophosphoric acid from the bodies of the bacteria are not. The latter are precipitated by neutralising their solution, while the former are not, and a precipitate forms on mixing the two solutions. The essential points

about a preparation which shall stimulate the protective cells is that the toxins contained in it should be less virulent than those of the actual bacilli causing the disease, and that their molecules should be more easily acted upon and destroyed. Professor Béraneck has carried out experiments on guinea-pigs, which he states are the "animals of choice" for the study of tuberculosis—a view which is perhaps open to objection in that these animals differ so widely from mankind in their susceptibility to the infection. He finds that, though he cannot save the lives of infected guinea-pigs by treatment with his tuberculin, yet those so treated live longer than the controls. He finds also that if the lethal dose of tuberculin for an infected guinea-pig be determined, and if this dose be mixed before injection with serum from a normal guinea-pig, on the one hand, and with serum from a guinea-pig which has received injections of tuberculin, on the other, the animal which receives the latter mixture lives considerably longer than that to which the former mixture is administered. Injections of tuberculin do not produce immunity, and the so-called intensive treatment is accordingly irrational. The optimum dose must be determined by clinical observation, and this quantity continued for subsequent doses so long as its good effect continues, according to the method of Professor Sahli. Unfortunately treatment with tuberculin does not suit all cases, and it is impossible to know, except by experiment, which are suitable. In any case it is important to have recourse to the remedy early, and not to reserve it as a last resource when other measures fail.

THE DOSAGE OF LOCAL ANÆSTHETICS.

IN the *Journal of the American Medical Association* of Jan. 17th Dr. A. H. Miller has emphasised the necessity for care in the dosage of the local anæsthetics, even those considered the safest. They all have a general effect depending on the dose. The toxicity of cocaine led to the substitution for it of other drugs which are less toxic, but cannot be considered entirely safe. It is unfortunate that their dosage is generally not given by manufacturers and is impossible to find in medical literature. What is given is strength of solution, and the dangerous inference may be drawn that any amount of a solution of that strength may be used with safety. The dosage is calculated for the local effect without considering the general effect. The result is shown by a series of 103 cases reported to the Providence Society of Anæsthetists in which alypin, one of the safest of the local anæsthetics, was used. Of these 35 were minor surgical operations and 68 genito-urinary operations. In 100 of the cases there was satisfactory anæsthesia, in 2 the anæsthetic caused serious difficulty, and in 1 death. In the last case the patient was a healthy man, aged 39 years, who was about to undergo the operation of dilatation of a stricture of the urethra. About 2 drachms of a 10 per cent. solution alypin were introduced into the urethra and bladder. Two minutes later he cried out and had a general convulsion. During the next ten minutes about half-a-dozen such convulsions followed. Respiration ceased in seven or eight minutes and at the end of ten minutes the pulse had stopped beating. Artificial respiration and stimulation were tried without avail. In another case a healthy man was about to have sounds passed for retention of urine. An unmeasured quantity of a 10 per cent. solution of alypin was introduced into the urethra and bladder. After about five minutes there was a general convulsion. The pulse became imperceptible and the respiration ceased. The patient was revived with difficulty after about two hours' work. In the third case about 1½ drachms of a 10 per cent. solution of alypin were introduced into the urethra and bladder for dilatation of a stricture. In three minutes the patient became unconscious, and after about five minutes had a severe general convulsion. The respiration ceased, the pupils were widely dilated, and the face was somewhat cyanotic, but the pulse remained good. The treatment consisted in artificial respiration and the inhalations of oxygen. In 10 minutes the danger seemed to be passed and recovery ensued.

ST. GEORGE'S HOSPITAL.

ON Thursday in last week a special court of governors of St. George's Hospital, presided over by Lord Greville, was held in accordance with the notices published in these columns. As a result of the deliberations the house committee received, on the motion of Sir Henry Burdett, power to refer to a committee of governors the consideration of the laws of the institution. The intention, if possible, of amalgamation with the Westminster Hospital is kept to the front by the agreement that when the occasion arises a joint committee of the two hospitals will be appointed. The unfortunate episodes which led to the resignation of the presidency of the hospital by H.R.H. the Princess Christian were met by a resolution regretting that an impression had been given that the proper authority of the president of the hospital had been resisted, and acknowledging the right of the Princess Christian to institute an independent inquiry. In moving a resolution, which was duly passed, appointing Lord Plymouth and Mr. West honorary life governors of the charity, Dr. John Cahill, in a wise little speech, explained that Mr. West had not sought for a salaried post in the hospital, and would not have entertained appointment thereto had he not been under the belief that the governors of the charity approved of what was being done. Dr. Cahill pointed out that the various differences of view amongst the governors had not impaired the high quality of the service given by St. George's Hospital to the sick poor.

DIABETES INSIPIDUS AND INFANTILISM.

THE effects of disturbance of the functions of the ductless glands, whether they be considered as acting together or separately, may be divided provisionally into two groups. There are, first, alterations of the nature of a dystrophy, as in acromegaly, infantilism, &c.; and, secondly, there are profound modifications of metabolism, as in diabetes mellitus and glycosuria, occurrence of which in disease of the ductless glands is common. Sometimes a condition of diabetes insipidus has been noted, and various investigators have remarked its association with experimental lesions of the pituitary body. Cushing has found that in a number of his surgically treated patients an unaccountable post-operative polyuria has occurred. A patient with moderate signs of hypopituitarism and normal urinary output, developed an extreme diabetes insipidus (10 or 11 litres in the 24 hours) for three months after a

simple sellar decompression. Further, the same observer has often noted diabetes insipidus in animals after operation on the hypophysis. It has long been recognised that a transient hemianopia —hemianopia fugax—is sometimes associated with diabetes insipidus, but the real significance of the fact is only now being appreciated. According to Futcher, in a large number of recorded cases of diabetes insipidus both hemianopia and primary optic atrophy have been described. Schäfer and Magnus were the first to show that extracts of the posterior lobe of the pituitary gland possess diuretic properties of high degree, and Schäfer and Stiles have used such extracts clinically as diuretics. It is therefore clear that integrity of function of the hypophysis is intimately linked with control over urinary output, and that the appearance of polyuria or diabetes insipidus as a clinical symptom must at once direct attention to the matter of hypophyseal function. In the *Nouvelle Iconographie de la Salpêtrière*[1] MM. P. Lereboullet, M. Faure-Beaulieu, and E. Vaucher have published an interesting case exhibiting a combination of diabetes insipidus and infantilism. The patient was a young man, aged 24, who came under observation in January, 1913. He had developed normally up to the age of 14. Very shortly after a shock, sustained by involuntary immersion in cold water through falling out of a canoe, he began to pass large quantities of urine, 7 or 8 litres a day, and to suffer from polydipsia. These symptoms have persisted, but there has never been either sugar or albumin in the urine. At the age of 16 the patient's teeth all dropped out in the course of a few months as the result of painful ulceration of the gums. A year or two later generalised eczema of severe type appeared and has proved very intractable. On examination the youth was found to present extremely well-marked signs of infantilism. There was no hair on face or pubes, and only one or two sparse hairs in the axillæ. His voice had not "broken." There was double testicular atrophy, and the penis was very small, like an infant's. There was complete absence of sexual desire and power. No objective ocular signs were found, however, and the sella turcica was seen radioscopically to be of normal size and appearance. The patient's mental condition was quite good. While under observation he often passed as much as 10 litres of pale limpid urine in the 24 hours. Hypophyseal, thyroid, testicular, and pancreatic extracts were tried in turn during four months, but all failed to modify the patient's symptoms materially. The authors who have published the case are of the opinion that the condition is due to defect of function of the pars intermedia, usually described as belonging to, or at least mainly associated with, the pars posterior or nervosa of the pituitary gland. A number of clinical cases have now been reported where diabetes insipidus occurred with other definite indications of pituitary disease. Simmonds has published a case of tumour of the posterior lobe in which a polyuria of 19 litres in the 24 hours occurred. Franck has recorded a case of attempted suicide with a revolver in a man, aged 39, who, not long after shooting himself in the right temple, began to put on fat and developed a well-marked diabetes insipidus. Radiography showed clearly a ball occupying the posterior section of the sella turcica. Marie and Boutier have described a similar combination, as have Morley Fletcher, Berblisiger, Williams and Belfield, and others. Farini has treated a case of diabetes insipidus systematically with pituitary extract, but was able to control it and reduce it only as long as the treatment was active; whenever the latter ceased polydipsia and polyuria returned. There are, no doubt, difficulties in regard to the actual mechanism of production of the symptoms concerned. It is held at present that infantilism is associated with diminution of function of the anterior lobe, a hypopituitarism, while apparently the diabetes insipidus is a sign of liberation of an excess of posterior lobe secretion, a hyperpituitarism. On the one hand, however, different parts of the gland seem to be involved in the production of these two conditions, and, on the other, the study of the syndromes occurring in the course of disease of other ductless glands has accustomed us to analogous physiopathological dissociations.

[1] September-October, 1913, p. 410.

A RARE FORM OF ABSCESS IN APPENDICITIS.

AT a meeting of the Académie de Médecine on Jan. 20th M. Routier reported a case of appendicitis in which an abscess formed in a very unusual situation—in the mesentery. A woman, aged 24 years, previously quite well, was awakened in the night of Jan. 30th, 1912, by severe abdominal pain. As she was menstruating she attributed the pain to this condition. But next day the temperature was 104·3° F. and she was very prostrate. A purgative was given, but it was vomited. On the third day her medical attendant, finding gurgling in the right iliac fossa, diagnosed typhoid fever. Then the spleen appeared to enlarge, which confirmed his diagnosis, and he sent the patient to hospital. Widal's test and blood culture were performed with negative results. For a fortnight attacks occurred every five days, characterised by rises of temperature to 104° or 105·8°, followed by shivering and chattering of the teeth. Finally, a painful point to the left of and a little below the umbilicus became manifest. On palpation there seemed to be a swelling at this spot. The patient continued in a prostrate condition and suffered from constant nausea. M. Routier then saw her in consultation. He found the whole abdomen supple except at the spot mentioned, where there was a painful indurated zone of the size of a 5-franc piece. He did not make a definite diagnosis, but considered that operation was necessary, and that probably an abscess would be found. This was done on Feb. 20th. The peritoneum and intestinal coils were found normal. On separating the latter an induration was found at the root of the mesentery, the anterior layer of which was raised by the swelling. The pulsations of the aorta were transmitted to it. Having carefully isolated the field of operation, two fingers of the left hand were passed in front of the aorta beneath the swelling and a vertical incision was made. A large spoonful of thick creamy pus escaped. The cavity of the abscess was explored without result. A wick-drain was inserted, and the abdominal cavity was closed. The patient at first considerably improved; the pain disappeared, but the temperature remained 104°, and she died on March 4th. The origin of the abscess was a mystery until the necropsy, which showed that an appendix in an abnormal situation—between the two layers of the mesentery—had perforated. From the perforation a

purulent track of the size of a quill ran to the abscess. The patient had succumbed to septicæmia. M. Routier was of opinion that her life could have been saved by earlier operation. He considered it would be a good rule to think of appendicitis in abdominal affections in which the pain is of sudden onset even though it is not in the usual position. He also referred to another case of abscess in the mesentery, due to perforation of an appendix situated between the layers of the mesentery, reported to the Académie by M. Jules Bœckel on Oct. 8th, 1912. It differed from the present case in that the neighbouring intestinal coils were inflamed and formed a lump around the abscess.

LEFT-HANDEDNESS AMONG SCHOOL CHILDREN.

Dr. Schäfer, a medical officer to the Berlin municipal schools, having made an investigation concerning left-handedness among the Berlin school children, found that of 17,000 children examined for that purpose 4·06 per cent. were left-handed—namely, 5·15 per cent. of the boys and 2·98 per cent. of the girls. The number of ambidextrous children was very small—only 0·21 per cent. Dr. Schäfer concluded that of the 228,455 pupils of the Berlin municipal schools 9265 must be left-handed, and recommended the establishment of special schools for them. The Berlin school managers did not follow that advice, but they made experiments to try whether it was possible to train the children to the use of both hands equally. The results of the experiments lately published by Dr. Dickhof, one of the school inspectors, were described as rather unsatisfactory. A preference for the left hand on the part of the children was never observed. In making drawings the elder children showed a slight improvement in their ability to use the left hand, but in the lower classes the children were quite unable to draw. In the writing classes it was obvious that the right hand became worse when the left hand was trained, and the penmanship of the left hand was at the same time quite impossible to be read. Weak and nervous children became nervous when they had to write with the left hand and asked to be allowed to return to the use of the right hand. Dr. Dickhof concluded that attempts to train children to a compulsory use of the left hand equally with the right one ought to be abandoned, but that natural left-handedness should not be suppressed but helped.

THE BACTERICIDAL ACTION OF ORGANIC SILVER SALTS AND OTHER ANTISEPTICS ON THE DYSENTERY BACILLUS.

WE understand that at the present time in Calcutta bacillary dysentery is the most difficult of the common tropical diseases to treat successfully and that it has, moreover, the highest mortality with the single exception of that terrible malady, kala-azar. It is unfortunately the case that many of the patients do not come under medical observation until extensive ulceration of the large intestine has taken place. Following up the admirable work which he has done in the treatment of amœbic dysentery[1] Lieutenant-Colonel Leonard Rogers, C.I.E., I.M.S., professor of pathology, Calcutta, has turned his attention to the bacillary form of that disease and has carried out a number of experiments as to the bactericidal action of certain substances upon the dysentery bacillus, a preliminary report on which he has lately published in the *Indian Journal of Medical Research* (vol. i., No. 2). In the course of his investigations he found that in many of the acute cases nearly the whole length of the large intestine was involved, and that in the majority the cæcum and lowest part of the ileum were also affected. In chronic cases, on the other hand, the lesions were limited to the lower half of the large bowel, the brunt of the disease falling upon the descending colon, sigmoid, and rectum. It was therefore evident that, apart from treatment by serums and remedies administered by the mouth, it was very desirable to use some medicament which when injected by the rectum would destroy the dysentery bacillus and its toxins and at the same time heal the ulcerated surfaces. After a trial of a number of substances in the test-tube as to their power to destroy the specific organism of the disease in sterilised water, and again in the presence of organic matter, Lieutenant-Colonel Rogers arrived at the conclusion that the organic silver salts had a considerable bactericidal action upon the dysentery bacillus. The organic combinations of silver yielding the most promising results were albargin or silver gelatose, nargol or silver nucleate, and protargol. For these a further trial is recommended. With regard to the action of antiseptics upon the dysentery bacillus, the most active was cyllin. A solution of iodine in iodide of potassium, as also izal, gave almost equally good results. Lysol was found disappointing. Both potassium and calcium permanganates were ineffective in the presence of organic matter. Boracic acid and quinine, so much used as a bowel wash in amœbic dysentery, have little or no bactericidal action on the dysentery bacillus. Lieutenant-Colonel Rogers therefore recommends a further trial of cyllin, iodine dissolved in iodide of potassium, and izal especially in early cases and under conditions which can be carefully controlled. His experiments are being continued, and he hopes before long to have sufficient material at his disposal to report more fully from the clinical point of view. The result of these further observations in the treatment of chronic bacillary dysentery will be awaited with great interest not only in India but in other parts of the East where this disease gives rise to much suffering and causes many deaths.

[1] THE LANCET, Oct. 19th, 1912, p. 1062.

Dr. Frederick E. Batten has been elected a corresponding member of the Société de Neurologie de Paris, and Mr. Herbert Tilley a corresponding member of the Laryngological Society of Berlin.

SOCIETY FOR THE ADVANCEMENT OF CLINICAL STUDY IN NEW YORK.—This institution was founded as the result of a conference in 1912 between the committees of the principal medical societies in New York to render available to visiting and resident medical men the vast amount of clinical material that the hospitals of the city afford. It has established a Bureau of Clinical Medicine, of which the secretary is Dr. George Gray Ward, jun., at the New York Academy of Medicine, 17, West 43rd Street, New York, where daily bulletins of operations are posted. It has also issued a small handbook containing the lists of the various clinics, medical, surgical, and special, held in the hospitals of New York and Brooklyn from November, 1913, to June, 1914, grouped under the days of the week. The idea is a good one, and might with advantage be imitated in London and elsewhere.

A NEW RADIOMETER FOR USE WITH SABOURAUD'S PASTILLES.

BY DUDLEY CORBETT, M.A., M.D. OXON.,
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THIS instrument is the result of an inquiry into the colour changes occurring in the Sabouraud-Noiré pastille when exposed to X rays. It was undertaken with the hope of fixing an absolute standard for tint B which should be capable of being reproduced to any extent without variation. The paper standards at present obtainable are not all similar in tint, and one wonders what means are taken to ensure their accuracy; irregularity in the printing is obvious when one examines a large sheet. I have had the opportunity of examining a number of tints obtainable several years ago; they vary to an extraordinary degree not only in depth of tint but also in colour composition, so much so that it is impossible to make a pastille match some of them whatever exposure is given. We are told on the Sabouraud card that the tint there represented is the limit to which one can possibly go with safety, beyond this lie dermatitis and permanent alopecia. It is, however, fairly well known that there is roughly a 20 per cent. margin on either side of many specimens of tint B, while on the other hand some represent the limit of safety or 1·2 B and some are only 4/5 B. One specimen sent over specially by Sabouraud himself as "Teinte B vraie" was only 4/5 B. The ideal tint B, then, is one which will allow an error of about 20 per cent. on either side as a maximum. This tint I have now obtained and standardised in such a way that its exact colour composition has been correlated with clinical results in tinea work, and further being composed of tinted glasses standardised spectroscopically can always be reproduced in any quantity.

In a previous paper[1] the method by which this tint was obtained was described. Recent investigation has led me to modify certain statements and figures. Therefore, as it appears that many people have felt the want of such a standard, I will again briefly outline the method adopted whereby any fraction or multiple of the full pastille dose has been standardised. Two or three well-seasoned X ray tubes were used for the experiments in conjunction with a dipper break and tachymeter. The number of current interruptions required for the full epilation dose was noted for each tube; in this one was guided by a paper standard known to to be a safe one. Every care was taken to keep the milliamperemeter and qualimeter (Bauer) readings constant for each tube and each series of experiments. The pastille was fixed in the halfway position. The number of interruptions required for epilation in practice were then given and the pastille was removed and examined by means of a Lovibond's tintometer. This instrument consists of a finely graded series of glasses dyed with the three primary colours—red, blue, yellow, each unit being standardised spectroscopically. In a suitable viewing tube these can be so combined as to match by transmitted light against a pure white background the colour sensation transmitted by reflected light from any given substance.

The average of a very large number of observations gave the colour composition of a B tint which allowed a fair magin for error on either side. The standard Lovibond glasses used in combination to match this tint are yellow 13·0, red 1·5 units, which means that the colour sensation transmitted is a yellow-orange composed of yellow 11·5, orange 1·5 units. These figures differ very slightly from those first stated by me. The number of interruptions required to produce this tint being known, it was quite easy to measure the colour of any fractional dose, to plot a curve showing the colour developed by the pastille from the unexposed state to the full B tint, and to continue this curve up to the point where further exposure to X rays produced no more change of colour. I am not yet certain where this point lies. Beyond 2 B the orange curves flatten out and it becomes more difficult to appreciate finer fractions.

The fixed points on the daylight curves having been finally determined by taking the average of a large number of observations, another series of experiments were done under the light of an 8 c.p. carbon filament electric lamp, the pastille being situated about 8 inches from the lamp. The results obtained could be checked in daylight. It was considered that this form of lamp was likely to be the most convenient for general use. Results very similar to daylight were obtained by using a small 4-volt Osram lamp with accumulator, and fair results were got with a Price's standard candle in a modified form of Solly's hæmoglobinometer case, but both of these were abandoned as being too inconvenient.

There are, then, two separate sets of standards for day and electric light. The manner in which they correspond is best seen by plotting curves where the ordinates are the colour units and the abscissa markings current interruptions or time. It is then seen that the yellow-green colour of the pastille loses its green constituent rapidly in electric light and more slowly in daylight. As soon as the green is lost, orange develops, but beginning earlier reaches a higher mark at tint B under electric light than it does under daylight. It is thus obvious that to attempt to use the same standard with artificial light as well as daylight is to court trouble. The finer differences are rather easier to read at first under daylight, but with a little practice one can be equally accurate with either. The following is a description.

Method of Use.

The apparatus consists of a tube or oblong viewing box divided into two by a vertical partition so that on looking through the eyepiece against the background one sees two small white circles. At the distant end of the box are frames provided for the insertion of the glass standards; on the right for the colour tints and on the left for a neutral tint if required. The use of the latter will be explained below. The background is composed of pure white standard paper. In the background support is cut a shallow groove or a hole for the pastille holder depending on the type used, so that the pastille can be examined without removal from its holder. The tint of the pastille is thus compared with the standard inserted. It is possible to get such an exact match in tint that one could not say on which side the pastille was situated.

Neutral Tint.

When measuring the unexposed pastille and the 1/4 and 1/3 B in bright daylight it was found that although it was possible to match the pastille in tint it was always brighter than standard. This

[1] British Journal of Dermatology, August, 1913.

brightness, which is due to the white light reflected from the pastille, is dulled if necessary by the interposition of a standard neutral tint composed of a fraction or multiple of one unit of each of the red, blue, and yellow glasses combined, which absorbs the white light. For example, the colour sensation transmitted from the unexposed pastille in daylight is: yellow, 11·5; green, 1·5; light, 1·5; for 1·5 of neutral tint was required to absorb all the white light transmitted. Similarly for 1/4 and 1/3 B under bright daylight 0·5 and 0·2 neutral tint were required respectively.

The following precautions should be taken when using the radiometer:—

In daylight: 1. This should be diffused and as white as possible. On no account should measurements be made near sunlight. 2. Keep the instrument vertical, avoiding shadows.

Using electric light: 1. Use an 8 c.p. carbon filament lamp with frosted glass so arranged with a shade that the eyes are protected from the light. The shade should be black, not coloured. Those used for microscopes do very well. The lamp should be in good condition. 2. Keep the instrument vertical, the pastille being about 8 inches away from the lamp.

In both cases: 1. Examine as quickly as possible, for the pastille fades even in electric light. 2. The standard white background must always be used and kept clean.

The Standards.

1. 1/4 B. This will be useful to those people who work with the pastille on the skin in tinea. If used in this way without any other control a new pastille should always be exposed. In daylight 0·4 neutral tint is required on the pastille side to absorb the white light. Both this standard and the 1/2 B can be used in treatment of deep-lying tissues with filtered rays when it is required to bring the tube as close as possible to the skin. 2. 1/3 B is the dose employed in the treatment of various skin affections. 0·2 of neutral tint is sometimes needed. 3. 1/2 B is a useful standard: (*a*) It is employed in the treatment of certain diseases of the skin; (*b*) it can be used in tinea by those who use the "1/2 time distance" method. If the usual anticathode skin distance is 15 cm., and this is reduced by 1/4 to 11·25 cm., 1/2 B at the original half-way position 7·5 cm. from the anticathode will mean that the scalp will receive 1/4 B. I have not at present had any experience of this method as recommended by Hampson and further modified by Batten,[1] but in view of the readiness with which this tint can be appreciated in the radiometer the procedure should be rendered easier. Further at a point on the curve just below 1/2 B—namely, 4/10 B—the colour is a yellow with a trace of blue. Using this standard, which can be supplied if required, one would be able to give the equivalent of 4/5 B in the true half-way position, although, of course, the margin for error is smaller.

The Epilation Doses.

4. 4/5 B usually produces epilation without erythema, but cannot always be relied upon for this purpose. It is frequently insufficient for the top patch in tinea and for very stiff beards; for these the full dose should be given. 5. 1/1 B always produces epilation. There is usually some transitory erythema at about 18 days, better marked on the skin near the ears and at the back of the neck if unprotected. 6. 1·2 B is the highest dose I have ever employed in tinea. Epilation of course results, and is always accompanied by erythema and sometimes by transient dermatitis on the unprotected skin. If any septic foci are present on the scalp there is a smart inflammatory reaction around them. This form of dermatitis starts as an erythema and is followed by a slight desquamation, but the whole process clears up in a week under soothing applications. In the few cases where this dose was reached the re-growth of the hair, though slower than after the smaller doses, was quite satisfactory. I should imagine that this point was very nearly the limit consistent with safety in tinea. I have given it with success as an unscreened dose for rodent ulcer, allowing a full month to elapse between the first and second dose.

Standards for higher doses up to 4 B can be easily made, but as these doses would of course only be given with a filter, there is not much object in using such standards, as it is becoming the general practice to measure the dose with the pastille under the filter.

Where very accurate doses are required new pastilles should be used. The exposed pastille never returns exactly to its original tint; there is less green even after thorough bleaching. This fact makes very little difference to the orange part of the curve—that is to say, tint B is not reached appreciably quicker provided that the pastille has not been used more than three times at most.

This instrument has been in daily use in the X ray Therapeutic Department of St. Thomas's Hospital for some months, and the results in tinea work have been most satisfactory. During 1913, the first year of the department, about 200 cases of tinea were treated. At first we were always in doubt with regard to any dose below the full B, and several cases had to be done a second time. Since these standards have been employed there has only been one case which has needed a second sitting. In this there was incomplete epilation after a full dose over an area occupied by a large known nævoid patch on the scalp. We use 4/5 or 9/10 B for all except the top patch, which receives the full dose. There have been no cases of permanent baldness and none of dermatitis except the transitory form with 1·2 B already mentioned.

The advantages of this radiometer over others where Sabouraud's pastille is employed are:—

1. The colour standards are constant and invariable in tint, easily kept clear, and do not fade. The smaller differences between the fractional doses are readily appreciated.

2. They have all been verified experimentally in tinea work, and any fractional or multiple dose can be standardised.

3. There is provision of a separate series for daylight and standard artificial light. A series could be worked out for any constant source of light if required.

The pastille should be examined in its holder if possible. The instrument can be adapted to any form of pastille holder. The makers are Tintometer Limited, The Colour Laboratory, Salisbury.

[1] Brit. Med. Jour., Oct. 11th, 1913.

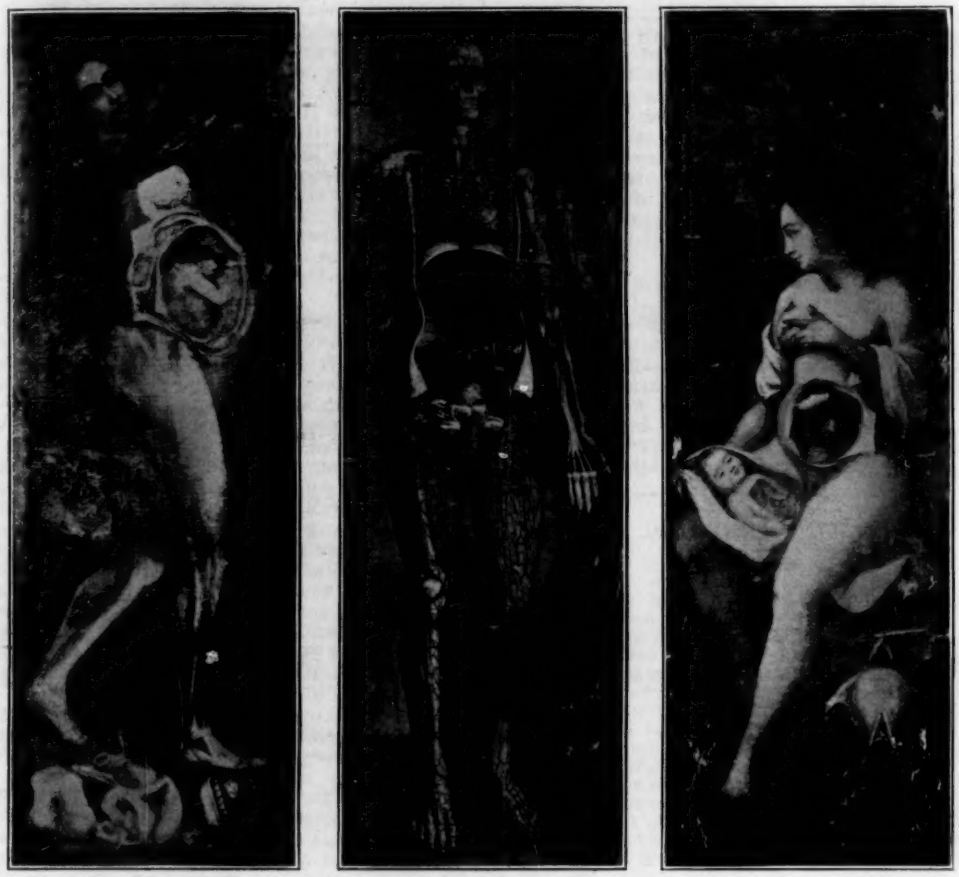
SOME PANELS BY JACQUES GAUTIER D'AGOTY.

THERE are at the present moment on private exhibition in Paris 12 painted panels attributed to Jacques Gautier d'Agoty which would form a remarkable adornment to any great medical library or institute if they should have the good fortune to find a generous purchaser. We reproduce here three of the pictures, the enormous reduction being intimated by the fact that each panel measures 2·30 metres in height by 0·70 metre in breadth.

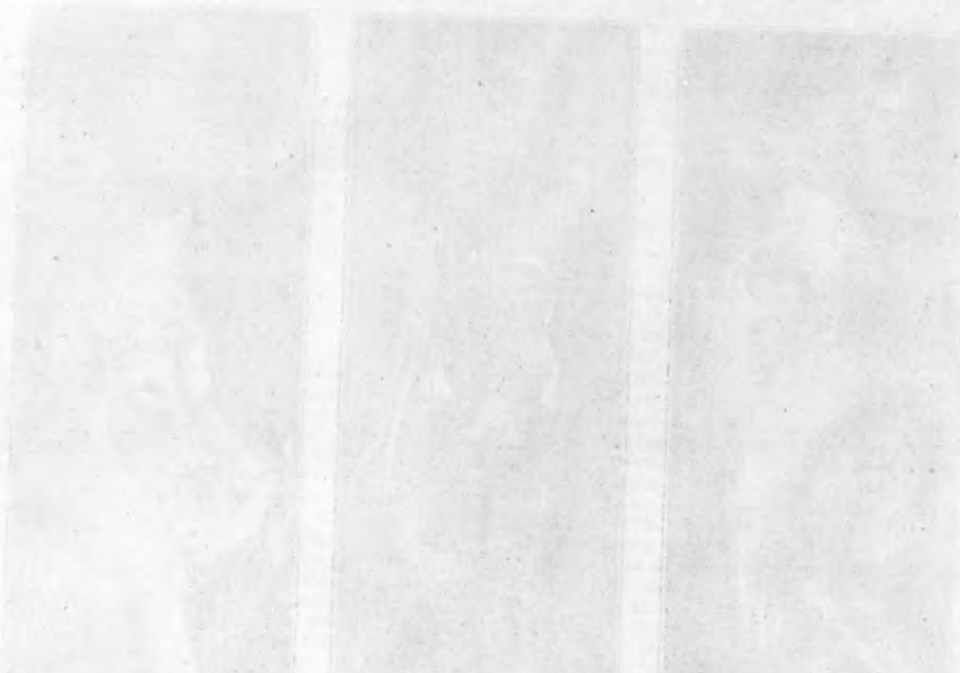
The origin of the panels, though their authenticity can hardly be challenged, is a little obscure. Jacques Gautier d'Agoty, a member of the Dijon Academy of Sciences, was born in Marseilles in 1710, and died in Paris at the age of 75. He was a philosopher, a distinguished anatomist, an engraver, and, *teste* these panels, a painter of remarkable quality. He published in 1745 an illustrated work under the title "Myologie Complète en Couleur et Grandeur Naturelle," which was illustrated by 20 plates with letter-press furnished by Jacque François Duverney, lecturer and physician of the Jardin du Roy, and brother of the great Guichard Joseph Duverney. This book, separately or bound up with another work on the brain and the special organs of sense, illustrated from dissections made by Duverney, and sometimes including a third work on the general anatomy of the viscera with 18 coloured plates, is occasionally catalogued by booksellers, so that the 46 plates are familiar to some bibliophiles. In 1752 d'Agoty wrote a work entitled "Natural History," which dealt with philosophy, art (especially painting), science, and physical development, which was illustrated by 10 plates. He published also a refutation of the Newtonian theory of fundamental colours, under the title of "Chroa Genesie," in 1750, and conducted a controversy on the same subject in the London scientific papers of that year.

The 12 panels which are now in Paris, in the possession of M. Oscar Scarpa, at 12, rue Pierre Joignaux, Bois Colombes, appear to be certainly the origins of some of the plates, and not to have been themselves painted from the plates. This is in direct contradiction to the suggestion that they might have been painted by d'Agoty's son Arnaud, who wrote several medical works illustrated by coloured plates.

The technique of the 12 panels is admirable, and the delicacy and beauty of the women's faces show them to be the work of a finished painter. The existence of the panels has long been an open secret, indeed, a description of them can be found in the "Bibliothèque National," and their history, taken in connexion with the numerous plates illustrating d'Agoty's works, presents many interesting problems to the art critic. Their proper home is certainly some great institution, like the École de Médecine at Paris or the Museum of the Royal College of Surgeons of England.



Reproductions from photographs of three of the D'Agoty panels.



THE PROGRESS OF THE TELEPHONE AND ITS BEARING ON MEDICAL SERVICE.

AMONGST the very numerous practical applications of science in human affairs the telephone must appeal as one of the most remarkable when we realise how enormously it has facilitated intercommunication. The successful installation of a general system, which means that direct conversation between two individuals, however remote from each other they may be, can be ensured in a short time by the mere installation of wires, forms a wonderful scientific contribution to the public service. Its use has become so familiar nowadays that the wonder of it sometimes escapes our attention, although when we consult the telephone directory we must appreciate the fact that by its means we can be put into communication with any single individual in the country who is a subscriber. It is, further, of the greatest possible help when it brings us into rapid communication with medical assistance, the police, or the fire brigade. The telephone is a source of annoyance frequently, and there are not a few persons who are inconsiderate as to its use, but its great general advantages outweigh any drawbacks. Altogether it is safe to assert that the telephone is an instrument of inestimable public service.

As everyone knows, the telephone system has not reached a perfect stage of development, and one of its admitted defects is that communication can only be gained through an intermediary or exchange. Under the present system the caller must first get into communication with a centre or exchange from which radiate the wires of the units forming the group of members of that exchange. The operation of joining up the wires of the exchange is a manual one. Human ingenuity has recently, however, definitely succeeded in establishing machinery by means of which a number can be picked up without fallible human intervention. In other words, the "caller" can reach the "called" by an automatically acting exchange. It is all based on electrical mechanism. There is a response at the automatic exchange to the call. A mechanism is thus started which releases, as it were, a number of keys according to the figures desired; these keys can only engage the wards of a lock, to use the same analogy, which correspond with the number called, and a correct communication is established. This is a very sketchy description of the mechanism, but it serves to indicate the principle.[1] The practical working of this automatic device without a sign of human assistance is most impressive. In the presence of such a machine the triumph of its execution creates a deep feeling of wonder and admiration. Its action is almost uncanny. Clicks and buzzing sounds occur at rapid intervals, which mean that the work of connecting "caller" and "called" is proceeding smoothly, and the gates of conversation are opened between the human units at each end of the system.

It is interesting to us that the first example of this system which it has been our fortune to inspect has been installed with complete satisfaction at one of our large hospitals. At the new King's College Hospital at Denmark Hill, S.E., where some 100 lines are in operation, the whole work of telephone communication is done by an automatic exchange. This has worked satisfactorily for several months, and we are not surprised to learn that a practical acknowledgment of the value of the system is to be found in the fact that complete designs are already being equipped for places abroad and for villages at home. The automatic system has already been applied with success to big centres of civilisation and industrial enterprise, notably in Munich, Amsterdam, and Dresden, apart from private installations, involving the laying down of thousands of lines with the automatic exchange in great manufacturing works.

This remarkable development of telephonic system of communication, presenting the unquestionable advantages of an automatic exchange applied either to public or private installations, possesses considerable significance for medical men. In a large hospital it provides an intercommunication between the ward and staff, with obvious advantages over present systems. It does not necessitate a constant night attendance at the telephone centre, and an economy should be introduced which will justify the cost of installation. It will also increase the facilities for communication between practitioner and patient in town and country.

The introduction of such a labour-saving appliance will necessarily affect the present *personnel* of telephone administration. It will be realised that the world-wide installation of an automatic telephone exchange which successfully eliminates human assistance must seriously attack the interests of a large number of operatives at present engaged in connecting the lines. But it may be hoped that further scientific creations will find for them other employment.

[1] An account of the interesting details of the principles of the system is published by its elaborators, Messrs. Siemens Brothers, of Woolwich, Kent.

JANUARY AT HOME AND ABROAD.

At Home.

LIKE December, January was very dry, although its sky was only cloudless for relatively brief periods, but it differed from it very considerably in its temperature, which was generally below the normal owing to a cold current of wind from the east and north-east for about a fortnight after the 11th. Severe frost was, however, the exception rather than the rule. On most nights the sheltered thermometer only descended to the freezing point or a few degrees below it, and in consequence of the flow of air from the frozen Continent and the generally overcast sky the usual rise of temperature to the ordinary maximum in the afternoon did not occur, with the result that the day temperature was very few degrees above that of the night. On a few occasions in the north-east of Scotland and the south-east of England, where the cold was most marked, the thermometer barely exceeded the freezing point all day. Here and there in the north of Scotland there were minimum temperature readings 10° or more below freezing point, but such readings were very rare in England. They did, nevertheless, occur in the Midlands and south-east of England just before the shift of wind to the south and south-west heralded a change to milder weather. On the night of the 24th the sheltered thermometer fell to 19° or 20° at Kew and the other stations in the metropolitan area, while a similar figure was recorded over a large portion of south-eastern England. At Kew the mean maximum temperature for the month was 42°, or a degree below the average, and the mean minimum was also a degree below, the figure being 33°. During the prevalence of the cold spell the mean day temperature was sometimes 8° to 10° below the normal, but this was counterbalanced by the mild days early and late in the month. The coldest day was the 24th, when,

after the minimum of 19°, the maximum was as low as 31°. Rain fell only on 10 days, and the total, 0·54 in., was no more than 50 per cent. of the January average. As many as 17 days—most of them during the cold spell—were entirely sunless, and the total sunshine for the month was only 26 hours, against an average of 44 hours. Both Bath and Nottingham had the same minimum temperature as Kew, but their mean maximum was 1° or 2° higher. Bath had no more than 7 days with rain, giving a total equal to that at Kew, but at Nottingham rain fell on 18 days, and yielded an aggregate of 1·1 in. Bath was more sunny than Kew, having a total of 38 hours—only 8 hours less than the normal—while at Nottingham there were no more than 21 hours, just half the average. For many days the coast of Kent was the coldest part of the kingdom. Further west the cold became gradually less keen. At Brighton the mean maximum temperature was a degree lower than at Kew, while the mean minimum was only a degree higher. At Bournemouth the mean maximum was 43°, or a degree higher than at Kew, and the mean minimum 35°, 2° higher than at Kew. At Torquay the corresponding figures were 45° and 37·5°, at Newquay 43° and 39°, and at the Scilly Isles 48° and 41°. Sunshine was more at Brighton than at the resorts further west. Its total number of hours, 60, was 6 more than the average, and 11 hours more than at Bournemouth, while it exceeded the totals at Newquay and Scilly by 23 hours. Torquay, generally among the brightest spots, and with a January average of 66 hours, experienced a very dull month, its total sunshine being only 28½ hours. As in London and central England the rainfall along the south and south-west coasts was much less than the normal, as well as in the Channel Islands. During the daytime Jersey had the same temperature as Torquay, but its mean minimum temperature of the night was 1½° lower. The Peak region of Derbyshire was seldom exceptionally cold. At Buxton the mean day temperature was 39°, and that of the night 32°, while the lowest temperature of the month was 5° higher than the 19° recorded in London.

Abroad.

The south and south-west of England compared very well with the Riviera and the south-west corner of France in the matter of temperature. At Nice the sheltered thermometer fell to 32° or below on 7 nights, and the mean minimum was only 35°, the same figure as Bournemouth, and some degrees below that on the coasts of Devon and Cornwall and at Scilly. The mean maximum was, however, higher than at any place in this country, although it was only 1° above that at Scilly. Biarritz was as cold at night as Brighton, and colder than all the English resorts to the westward, while its mean afternoon maximum, 45°, only equalled that at Torquay and Jersey, and was 3° below the figure at the Scilly Isles. Compared with the interior of France, the Netherlands, and Germany, the cold in this country was nothing. At Paris the mean maximum temperature was 37°, 2° lower than at Buxton, while the mean minimum was 25°, and the lowest reading recorded (on the 24th) 12°. The weather was, however, generally bright, and the total amount of sunshine as high as 68 hours, or 40 hours more than fell to the lot of London. At Brussels rain and snow were rather frequent, and the temperature a degree colder than at Paris both during the day and night. The lowest minimum temperature was 11°, and, as at Paris, the thermometer remained continuously below the freezing point for many consecutive days. At Berlin the temperature was lower than at Brussels, its mean maximum being 33° and its mean minimum 22°. On several nights the thermometer descended to 12°, and on some of the days rose no higher than 20°. Frost was frequent in northern Italy and occasionally occurred in the southern districts. Considered generally, however, the climate south of Rome was milder than the Riviera and nearly as bright. Maximum temperatures above 50° were very common, and very occasionally the thermometer ascended to within a few degrees of 60°. The Madeira Islands were too far south to be influenced by the cold current of wind that brought winter to Europe, and the mean temperature of the month was about equal to that of early June in England. The mean maximum was as high as 66° and the mean minimum no lower than 56°. On several days the thermometer reached 70°, while not a single night was colder than 52°. Rain fell on 7 days, and gave a total of 1·5 in.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the fourteenth meeting of the Royal Commission on Venereal Diseases evidence was given by Sir Arthur Downes, the senior medical inspector for Poor-law purposes of the Local Government Board, and by Dr. E. B. Sherlock, of the Metropolitan Asylums Board.

Sir Arthur Downes stated that the general opinion expressed by Poor-law medical officers in London was that venereal diseases are less prevalent and milder in type amongst the poor than they were formerly. The opinions of provincial medical officers varied somewhat, but on the whole they appeared to be to the same effect; there were, however, some exceptions, chiefly in seaport towns. He gave it as his general impression that the prevalence of venereal disease amongst the very poor was not large. He explained that under the Poor-law venereal diseases were on exactly the same plane as all other diseases, and that it was the duty of Poor-law authorities to afford relief to all persons in urgent need of any important assistance, such as medical assistance, which they were unable to provide for themselves.

Sir Arthur Downes said that although Poor-law authorities did not necessarily insist on venereal cases being treated in an institution, he believed that a considerable proportion of the authorities objected to affording outside treatment in the case of these diseases. This, he thought, might have the effect of deterring some people from coming for treatment. At the present time the use of the more recent methods of diagnosis and treatment in connexion with venereal diseases was confined to a number of the more important Poor-law authorities. In some of the large unions salvarsan treatment was in use and the Wassermann test was applied. In London a very fine system of Poor-law infirmaries had been provided, almost all of which were equal in their administration to general hospitals; most of these infirmaries were able to set apart special wards for venereal cases, though they could not always reserve those wards entirely, the number of cases not being sufficient to justify their setting aside beds which were very valuable. Most of the London unions sent their Wassermann tests to the Wassermann Institute or the Clinical Research or some pathological laboratory. In the case of the small country unions laboratory provision could not be expected, but the powers of the guardians to pay for diagnosis and to send patients for treatment in special institutions were very elastic; they had also wide powers of combining amongst themselves for any special purpose.

Referring to the recommendation of the Royal Commission on the Poor-laws that subject to certain safeguards against abuse the public assistance authority should have power to detain cases of venereal disease when medically certified to be dangerous to others, Sir Arthur Downes said that he could only support this proposal if the detention was not of a penal character and was so arranged as to be as little deterrent as possible.

At the fifteenth meeting evidence was given by Dr. Helen Wilson.

Dr. Wilson said that it was now generally recognised that it was quite futile to attempt for venereal diseases such isolation as was practised in regard to acute infectious diseases, the main reason being that in a large proportion of cases venereal diseases did not prevent the sufferer from following his ordinary avocation, that they were easily concealed, and that there were strong motives for concealment. The objects to be aimed at were, first, to bring every sufferer under efficient treatment at the earliest possible moment, thereby shortening the infective period; and secondly, to secure his own intelligent coöperation both for his own cure and for the protection of his associates. She did not think that compulsory notification would ever be a material help in diminishing these diseases, but that any attempt to deal with these diseases otherwise than on voluntary lines would array a tremendous amount of opposition. If voluntary methods were given a fair and intelligent trial she was convinced that the residuum of cases would be comparatively small and that probably means could be found for dealing with them.

As regards the organisation of medical treatment, Dr.

Wilson thought that the hard and fast line which has been drawn between these diseases and all others should be abolished. Admission to institutions and treatment of the diseases should not be governed by inquiries as to the method in which the disease was contracted, and the nursing and all other arrangements should be as good in the wards for the treatment of these diseases as in any others. Names like "Lock" and "Magdalene" for special wards or hospitals had a deterrent effect and should be avoided. She laid stress on the importance of providing evening clinics for out-patients.

Dr. Wilson was of opinion that further instruction was needed for medical students and nurses, and that the education of the general public in matters of sex hygiene was of the highest importance. She doubted whether it would be wise to introduce systematic class instruction in elementary schools, and she was certainly of opinion that in these schools there should be no instruction dealing with diseases. In the first instance, parents and teachers needed preparation for the work of instructing children. She understood that in some few training colleges this matter was already receiving attention, and teachers were being trained, not with the object of giving class lessons, but to enable them to speak to the older children privately when they saw occasion to do so. In some schools in America the plan had been tried of inducing the mothers to come and hear about the subject in the first place and afterwards of beginning a course of lessons to the girls, the mothers being invited to be present the whole time. Dr. Wilson considered this arrangement of teaching the girls in the presence of the mothers to be an admirable one as helping to secure what was most wanted—that the girls should be in the position to speak frankly to their mothers in private about the subject.

At the sixteenth meeting Surgeon Scott, R.N., who was until recently in charge of the Naval Hospital at Chatham, gave evidence respecting the methods of treatment and results obtained in naval hospitals.

AN INQUEST AT WORCESTER.

THE coroner for Worcester, Mr. W. B. Hulme, on Feb. 10th held an inquiry into the death of Mrs. Daniels. Before evidence was taken the coroner told the jury that the deceased was attended by a local medical man two or three years ago, but apparently the illness was not serious. During the past year she had been treated by Mr. Charles Burden, a herbalist, of Worcester. On Feb. 6th Mr. S. Wellesley Coombs was called in and found the woman in practically a dying condition. He also went there on the next day, in company with Mr. T. P. Gostling, an hour or two before she died. The difficulty in the case was that Mr. Burden, who, so far as he knew, had no qualification, had taken it upon himself to treat her. It would be a most serious matter if Mr. Burden had treated her improperly.

Evidence was given by the daughter of the deceased, who said her mother had been unwell for a little over a year, and had been treated by Mr. Burden. When she had to go to bed three months ago Mr. Burden saw her, and said she had had an abscess on one side of the bowels, that it had burst, and had caused blood poisoning. She had suggested many times that her mother should have a doctor.

On being asked by the coroner why, when she saw that her mother was very ill, she did not on her own account send for a doctor, the witness replied: Because when I became alarmed just before Christmas Mr. Burden seemed so confident and so often reassured me that he would pull her through.

Continuing, the witness said Mr. Burden told her that her mother had worm fever. A rash developed all over the body, and Mr. Burden told her that that was just what he desired, because it showed that the medicine which he gave her was throwing out the poison.

Mr. J. E. Anthony, who watched the case for Mr. Burden, suggested that her mother had no confidence in her doctor or she would not have gone to Mr. Burden. The witness said her mother had perfect confidence in the doctor.

Mr. Tom Bates, jun., F.R.C.S., who made the post-mortem examination, in his evidence said that externally the body was scaled all over. There were the remains of blisters on the neck, wrists, groins, and armpits. He first tried to draw water from the bladder, but it was empty. The liver was large, weighing 62 ounces, instead of 45 or 50, and its surface was rough instead of smooth, while its structure was tougher than it should be. The lungs were practically healthy. The heart was healthy with the exception of the thickening of the edge of one of the valves. The stomach was empty, and the large bowel, which had an extremely thin wall, had fluid contents. Examining the kidneys, he found that the cortex was reduced in width, and the capsule of the kidney was unduly adherent to the substance of the kidney. The right kidney weighed 5½ ounces, which was slightly enlarged. There was no solid matter in the whole of the intestines, which was somewhat unusual unless there had been severe diarrhœa. He found no sign of tapeworms in the intestines. Taking into consideration the fact that she was in a comatose or semi-conscious state for some hours before death, the witness believed that death was due to uræmia. There was no water in the bladder and there was definite disease of both kidneys.

Asked whether the rash she was suffering from was such that the people attending her should have been alarmed at her condition, the witness said he would be alarmed if a patient of his had so many blisters.

The coroner read out the following lists of herbs—agrimony, centaury, poplar, black barberry, sarsaparilla, dandelion, clivers, burdock root, figwort, blue flag root, black samson, black root, and motherwort—and asked the witness if he recognised any. Mr. Bates replied that he knew the names of some but not their action. In reply to a further question he said it was possible that she had been suffering from mucous colitis, which might have caused mucous casts, and these might have been mistaken for tapeworms.

Mr. Wellesley Coombs, F.R.C.S. Edin., said that he might have attended Mrs. Daniels for some slight ailment about three years ago. He was called in on Friday night (Feb. 6th) and found her covered with a red rash. Her armpits, groins, wrists, and back were raw, and nearly all her hair was off. She had acute dermatitis supervening on a chronic eczematous condition. Her temperature was below normal, 98° F., and her pulse was about 80. She was only semi-conscious, and consequently could give no account of her symptoms. It was impossible for him to form a diagnosis of her actual disease. She was practically dying. He was present at the post-mortem examination, and he agreed with Mr. Bates as to what he found. He believed that the cause of death was primarily Bright's disease of the kidneys; secondly, acute dermatitis; thirdly, uræmia. Asked if the course of events might have been altered if she had been under medical treatment he said he could not prognosticate, but he believed that if the skin had been got into a healthy state death might not have taken place when it did. The disease of the kidneys would probably have caused death sooner or later, but the affection of the skin was the determining factor.

Charles Burden, who said he was a member of the National Association of Medical Herbalists and had been practising for 27 years, then gave evidence describing his treatment.

The Coroner: You say she was seriously ill on the Wednesday night. Why didn't you call in a doctor or tell them to call in a doctor then?

Witness: I did not think it was necessary that night.

Did you say to Mr. Berry, when he asked you what would happen in case of death, that you could give a certificate?—No, I told him I could give a notification. That was weeks before.

You realised the possibility; and why did not you call in a doctor?—I did not anticipate death at all at that time.

When did you anticipate her death?—Not until last Wednesday.

Then why didn't you call in a doctor?—I did not think it was necessary.

Why didn't you try to get the best advice you could when you knew she was so seriously ill?—Because I felt that I could do as much as a doctor. He added that he told them to call in a doctor on Friday if they liked.

The Coroner then read the following certificate: "I hereby certify I attended Rosina Daniels, aged 54, and that she died on Feb. 7th, 1914, and that to the best of my knowledge the cause of her death was blood poisoning. Time from attack till death three months. Charles Burden, Associate and Member of the Medical Herbalists' Association, 16, Bridge-street, Worcester, Feb. 7th, 1914."

Mr. Anthony asked if that form of death certificate had been accepted anywhere else in the country, and the witness replied that it had at Bradford, Birmingham, Manchester, Sowerby Bridge, and other places.

The Coroner: Not as a certificate?—As a notification.

A Juryman: Has it been accepted and no inquest been held?—Yes.

The Coroner: Do you charge for your services?—I have not charged for my services, but for medicines.

Mr. Anthony said the old Act allowing herbalists to practise was one under Henry VIII., and it had never been repealed. He then read part of the text.

Mr. Anthony said he wanted to show the recognised position of herbalists and the examinations they had to pass, but the Coroner said he was afraid he could not allow questions on that. When Mr. Anthony went on to refer to the National Insurance Commissioners having made regulations

recognising herbalists, the Coroner remarked again that they could not go into those matters.

Mr. Anthony then maintained that Mr. Burden was entitled to give a notification which registrars must accept.

The Coroner: They can accept it as a notification, not as a certificate.

Mr. Anthony: But Mr. Burden says he gave it as a notification.

The Coroner: It speaks for itself, "I hereby certify."

The Coroner, addressing the jury, pointed out that Mr. Burden was not a duly registered medical practitioner, and he had taken upon himself to attend the deceased, and, except at the last moment, he refrained from advising the relatives to call in a doctor. He had said that he did not anticipate the woman's death. It was not necessary for a man to be a duly registered medical practitioner to enable him to treat patients if he had the requisite knowledge and made common and reasonable use of that knowledge. Mr. Burden's knowledge was nothing like what an ordinary medical man's would be. He would have very little opportunity of finding out what the deceased was suffering from. A medical man would have been able to diagnose her disease. The doctors had told them that the woman had diseased kidneys, and that they could not say if she had been attended by a doctor that she would still be living. They also said that none of the herbs mentioned would have been injurious. If that was so any case against Mr. Burden fell to the ground. Unless the doctors could say that the deceased's life was shortened by what Mr. Burden did there could be no charge against him in any way.

Without any comment, beyond expressing sympathy with the relatives, the jury returned a verdict in accordance with the medical evidence.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8407 births and 5430 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 17·5, 18·4, and 16·5 per 1000 in the three preceding weeks, further declined to 15·6 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 17·4, against a corresponding rate of 17·5 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·7 in Ilford, 7·7 in Walthamstow, 8·4 in Eastbourne, 8·5 in Enfield, and 9·4 in Hornsey, to 22·2 in Barnsley, 22·7 in Rochdale and in Gateshead, 23·9 in Merthyr Tydfil, 25·5 in Bury, and 27·0 in Burnley.

The 5430 deaths from all causes were 320 fewer than the number in the previous week, and included 401 which were referred to the principal epidemic diseases, against 400 and 375 in the two preceding weeks. Of these 401 deaths, 129 resulted from whooping-cough, 89 from measles, 68 from infantile diarrhœal diseases, 64 from diphtheria, 37 from scarlet fever, and 14 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2, against 1·2 and 1·1 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had steadily risen from 64 to 116 in the five preceding weeks, further increased to 129 last week, and caused the highest annual death-rates of 1·1 in Leicester and in Birkenhead, 1·2 in Newport (Mon.), 1·6 in Halifax, 1·7 in Swansea, and 2·2 in Rochdale. The deaths referred to measles, which had been 70, 79, and 64 in the three preceding weeks, rose to 89 last week; the highest death-rates from this disease were 1·6 in Middlesbrough, 1·9 in Barnsley and in Cardiff, 2·6 in Swansea, 5·0 in Dudley, and 5·7 in Burnley. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 68, 93, and 66 in the three preceding weeks, were 68 last week; of this number 17 were recorded in London, 5 in Birmingham, 4 in Manchester, and 3 each in Leicester, Liverpool, and Bradford. The deaths attributed to diphtheria, which had been 68, 85, and 70 in the three preceding weeks, further declined to 64 last week, and included 11 which were registered in London, 7 in Birmingham, 4 in Manchester, and 3 each in East Ham, Portsmouth, Cambridge, and Walsall. The deaths referred to scarlet fever, which had been 41, 29, and 38 in the three preceding weeks, were 37 last week, of which 10 occurred in Birmingham, 4 in London, 4 in Liverpool, and 3 in Salford. The fatal cases of enteric fever, which had been 17, 21, and 21 in the three preceding weeks, fell to 14 last week, and included 7 in London and 2 in Sheffield.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3567, 3599, and 3554 at the end of the three preceding weeks, had further declined to 3537 on Saturday last; 428 new cases were admitted during the week, against 375, 460, and 379 in the three preceding weeks. These hospitals also contained on Saturday last 1149 cases of diphtheria, 283 of whooping-cough, 82 of enteric fever, and 74 of measles, but not one of small-pox. The 1250 deaths from all causes in London were 190 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 421, 425, and 347 in the three preceding weeks, further declined to 262 last week, and were 101 below the number recorded in the corresponding week of last year.

Of the 5430 deaths from all causes, 156 were attributed to various forms of violence, and 388 were the subject of coroners' inquests. The causes of 31, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Nottingham, Portsmouth, and in 70 other smaller towns. Of the 31 uncertified causes of death 5 were recorded in Birmingham, 4 in Liverpool, 3 in Rochdale, 2 in Stoke-on-Trent, and 2 in Coventry.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1159 births and 743 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 20·9, 20·0, and 18·4 per 1000 in the three preceding weeks, further declined to 16·9 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 19·5, against a corresponding rate of 17·4 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 9·2 in Perth, 10·8 in Hamilton, and 14·1 in Clydebank, to 20·5 in Ayr, 21·6 in Kirkcaldy, and 21·8 in Coatbridge.

The 743 deaths from all causes were 64 fewer than the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against numbers declining from 100 to 68 in the three preceding weeks. Of these 75 deaths, 41 resulted from measles, 12 from diphtheria, 8 from infantile diarrhœal diseases, 7 from scarlet fever, 4 from whooping-cough, and 3 from enteric fever, but not one from small-pox. These 75 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 51, 48, and 34 in the three preceding weeks, rose to 41 last week, of which number 20 were recorded in Glasgow, 8 in Edinburgh, 3 in Paisley, and 2 each in Leith, Greenock, and Ayr. The deaths referred to diphtheria, which had been 19, 14, and 15 in the three preceding weeks, fell to 12 last week, and included 3 in Glasgow, 3 in Edinburgh, and 2 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 9, 12, and 7 in the three preceding weeks, were 8 last week, 5 of which occurred in Glasgow. The deaths attributed to scarlet fever, which had been 15, 10, and 6 in the three preceding weeks, were 7 last week, and included 2 in Glasgow and 2 in Edinburgh. The 4 deaths referred to whooping-cough, all of which were recorded in Glasgow, were 2 below the average in the earlier weeks of the quarter. Of the 3 fatal cases of enteric fever 2 occurred in Glasgow and 1 in Greenock.

The deaths referred to diseases of the respiratory system, which had declined from 230 to 179 in the four preceding weeks, further fell to 147 in the week under notice; 30 deaths were attributed to various forms of violence, against 36 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 638 births and 437 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 23·8, 24·0, and 21·9 per 1000 in the three preceding weeks, further declined to 18·9 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Irish towns averaged 22·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·4, while in the 16 Scotch towns it was equal to 19·5 per 1000. The annual death-rate last week was equal to 20·4 in Dublin (against 14·4 in London and 16·8 in Glasgow), 18·6 in Belfast, 19·0 in Cork, 5·1 in Londonderry, 23·0 in Limerick, and 28·5 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 17·1 per 1000.

The 437 deaths from all causes were 70 fewer than the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 21 and 37 in the two preceding weeks. Of these 35 deaths, 9 resulted from scarlet fever, 9 from whooping-cough, 8 from infantile

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1914.

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1914.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.			
LONDON	4,516,612	1	1717	672	—	85	1	22	379	4	3	2884	8·3	—	27	17	51	53	16	86	250	0·7	6379	18·4
West Districts.																									
Paddington	142,055	—	57	37	—	—	—	1	11	—	—	106	9·7	—	—	—	3	1	1	3	8	0·7	221	20·2
Kensington	170,817	—	55	17	—	—	—	—	15	—	—	87	6·6	—	1	1	1	—	—	6	9	0·7	230	17·5
Hammersmith	124,750	—	56	6	—	1	—	—	5	—	1	69	7·2	—	—	—	—	1	—	1	2	0·2	176	18·2
Fulham	158,849	—	77	26	—	5	—	1	6	—	—	115	9·4	—	—	—	1	3	2	5	11	0·9	203	17·3
Chelsea	63,791	—	28	4	—	—	—	—	6	—	—	38	7·8	—	—	—	—	—	—	3	3	0·6	94	18·3
City of Westminster	152,346	—	45	6	—	1	—	—	4	—	—	56	4·8	—	—	—	—	2	1	2	5	0·4	184	16·5
North Districts.																									
St. Marylebone	112,892	—	26	6	—	2	—	1	2	—	—	36	4·2	—	—	—	—	—	—	6	6	0·7	167	19·7
Hampstead	86,731	—	15	11	—	5	—	2	3	—	—	36	5·4	—	—	—	—	3	1	—	4	0·6	94	14·9
St. Pancras	212,497	—	69	29	—	6	1	—	25	—	—	130	8·0	—	—	—	3	3	—	3	9	0·6	324	19·8
Islington	324,764	—	150	50	—	15	—	2	26	—	—	243	9·8	—	—	—	2	5	2	6	15	0·6	499	19·5
Stoke Newington	50,454	—	21	13	—	1	—	—	1	—	—	36	9·3	—	—	—	—	1	—	—	1	0·3	63	15·5
Hackney	223,724	—	88	52	—	4	—	1	22	—	—	167	9·7	—	—	—	2	3	2	3	10	0·6	298	17·5
Central Districts.																									
Holborn	46,861	—	14	4	—	2	—	—	3	—	—	23	6·5	—	—	—	—	1	—	—	1	0·3	61	17·4
Finsbury	83,212	—	33	7	—	4	—	1	14	—	—	59	9·2	—	1	—	1	1	1	3	7	1·1	151	23·4
City of London	17,129	—	8	3	—	—	—	—	1	—	—	12	9·1	—	—	—	—	—	—	—	—	—	22	17·4
East Districts.																									
Shoreditch	108,869	—	27	16	—	—	—	—	22	—	—	65	7·8	—	—	2	3	2	—	3	10	1·2	184	22·7
Bethnal Green	127,662	—	28	14	—	—	—	1	20	—	1	64	6·5	—	—	1	2	5	—	4	12	1·2	189	20·1
Stepney	273,265	—	49	43	—	2	—	2	26	—	—	122	5·8	—	2	1	7	5	1	6	22	1·0	450	22·4
Poplar	160,222	—	47	20	—	3	—	2	13	2	—	87	7·1	—	—	—	1	3	—	7	11	0·9	237	19·1
South Districts.																									
Southwark	186,941	—	95	25	—	—	—	2	25	—	—	147	10·3	—	1	1	6	7	—	4	19	1·3	306	21·4
Bermondsey	124,213	—	53	23	—	—	—	—	4	1	—	81	8·5	—	4	2	3	—	—	2	11	1·2	218	22·8
Lambeth	296,724	—	146	29	—	6	—	1	16	—	—	198	8·7	—	2	1	2	1	2	4	12	0·5	410	17·6
Battersea	167,338	—	93	26	—	3	—	1	15	—	1	139	10·8	—	1	1	—	—	—	2	4	0·3	225	17·7
Wandsworth	338,998	—	89	45	—	10	—	1	21	—	—	166	6·4	—	1	2	1	2	2	7	15	0·6	363	14·1
Camberwell	262,020	—	131	34	—	3	—	2	19	—	—	189	9·4	—	3	3	2	1	1	3	13	0·6	388	19·1
Deptford	109,182	—	59	18	—	2	—	1	21	—	—	101	12·1	—	9	1	3	—	—	3	16	1·9	167	19·7
Greenwich	96,037	—	38	18	—	1	—	—	11	1	—	69	9·4	—	2	—	1	1	—	—	4	0·5	118	15·7
Lewisham	172,433	—	77	54	—	7	—	—	16	—	—	154	11·6	—	—	—	3	—	—	—	3	0·2	166	12·3
Woolwich	122,836	—	44	36	—	2	—	—	6	—	—	88	9·3	—	—	1	4	2	—	—	7	0·7	171	18·6
Port of London	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

diarrhœal diseases, 5 from measles, 2 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·2, while in the 16 Scotch towns it reached 1·7 per 1000. The deaths attributed to scarlet fever, which had been 2, 5, and 10 in the three preceding weeks, were 9 last week, of which 6 occurred in Belfast and 2 in Dublin. The deaths referred to whooping-cough, which had been 10, 7, and 6 in the three preceding weeks, rose to 9 last week, and included 6 in Belfast and 2 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 9, 6, and 7 in the three preceding weeks, were 8 last week, of which 5 were recorded in Dublin. The deaths attributed to measles, which had been 8, 3, and 8 in the three preceding weeks, fell to 5 last week, and were all registered in Dublin. The 2 deaths referred to diphtheria, which occurred in Dublin and Drogheda respectively, were slightly below the average in the earlier weeks of the quarter. The fatal cases of enteric fever were recorded in Dublin and Limerick respectively.

The deaths referred to diseases of the respiratory system, which had been 153, 157, and 132 in the three preceding weeks, further fell to 99 in the week under notice. Of the 437 deaths from all causes, 115, or 26 per cent., occurred in public institutions, and 7 resulted from various forms of violence. The causes of 28, or 6·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes last week did not exceed 0·6 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1914.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 8·3 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 10·4, 11·0, and 9·0 per 1000 respectively. The lowest rates last month were recorded in the City of Westminster, St. Marylebone, Hampstead, Stepney, and Wandsworth; and the highest rates in Islington, Southwark, Battersea, Deptford, and Lewisham. The prevalence of scarlet fever showed a considerable decline from the numbers recorded in other recent months; this disease was proportionally most prevalent last month in Fulham, Islington, the City of London, Southwark, Lambeth, Battersea, Camberwell, and Deptford. The Metropolitan Asylums Hospitals contained 3543 scarlet fever patients at the end of last month, against 3517, 4006, and 3810 at the end of the three preceding months; the weekly admissions averaged 400, against 512, 581, and 445 in the three preceding months. Diphtheria was slightly less prevalent than it had been in any of the three preceding months; the greatest proportional prevalence of this disease was recorded last month in Paddington, Stoke Newington, Hackney, Bermondsey, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1190, 1188, and 1099 at the end of the three preceding months, had further declined to 1092 at the end of last month; the weekly admissions averaged 153, against 184, 158, and 146 in the three preceding months. The prevalence of enteric fever was rather greater than it had been in December. Among the several metropolitan boroughs this disease was proportionally most prevalent in Fulham, Hampstead, Islington, Holborn, Finsbury, and Lewisham. There were 65 enteric fever patients under treatment in the Metropolitan Asylums Hopitals at the end of January, against 77, 72, and 51 at the end of the three preceding months; the weekly admissions averaged 14, against 12, 11, and 9 in the three preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Hackney, Finsbury, Shoreditch, Bethnal Green, Deptford, and Greenwich. The 22 cases of puerperal fever notified during the month included 2 each in Hampstead, Islington, Stepney, Poplar, Southwark, and Camberwell. Of the 4 cases of cerebro-spinal meningitis, 2 belonged to Poplar, and the 3 cases of poliomyelitis belonged respectively to Hammersmith, Bethnal Green, and Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the population of the several boroughs. During the four weeks ending Jan. 31st the deaths of 6379 London residents were registered, equal to an annual rate of 18·4 per 1000; in the three preceding months the rates had been 13·7, 13·5, and 14·9 per 1000 respectively. The death-rates last month ranged from 12·3 in Lewisham, 14·1 in Wandsworth, 14·9 in Hampstead, 15·5 in Stoke Newington, and 15·7 in Greenwich, to 20·1 in Bethnal Green, 20·2 in Paddington, 21·4 in Southwark, 22·4 in Stepney, 22·7 in Shoreditch, 22·8 in Bermondsey, and 23·4 in Finsbury. The 6379 deaths from all causes included 250 which were referred to the principal infectious diseases; of these, 27 resulted from measles, 17 from scarlet fever, 51 from diphtheria, 53 from whooping-cough, 16 from enteric fever, and 86 from diarrhœa and enteritis among children under two years of age. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Hammersmith, Stoke Newington, Holborn, Battersea, and Lewisham; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. The 27 fatal cases of measles were 172 below the corrected average number in the corresponding period of the five preceding years; of these 27 cases 9 belonged to Deptford, 4 to Bermondsey, 3 to Camberwell, 2 to Stepney, 2 to Lambeth, and 2 to Greenwich. The 17 deaths from scarlet fever were 2 below the corrected average number, and included 3 in Camberwell and 2 each in Shoreditch, Bermondsey, and Wandsworth. The 51 fatal cases of diphtheria were 2 in excess of the corrected average number; the greatest proportional mortality from this disease was recorded in Paddington, Shoreditch, Stepney, Southwark, Bermondsey, Deptford, and Woolwich. The 53 deaths from whooping-cough were 38 fewer than the corrected average number; this disease was proportionally most fatal in Hampstead, Bethnal Green, and Southwark. The 16 deaths from enteric fever were equal to the corrected average number, and included 2 in Fulham, 2 in Islington, 2 in Hackney, 2 in Lambeth, and 2 in Wandsworth. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 57·1 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Staff-Surgeon Arthur Sylvester Bradley has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Feb. 11th, 1914).

In accordance with the provisions of His Majesty's Order in Council of August 8th, 1911, Surgeon Lionel Caldbeck Esmonde Murphy has been placed on the Retired List (dated Feb. 12th, 1914).

The under-mentioned Surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's Fleet: Leonard Warren, Louis Leisler Greig, Ewen Cameron, Percy Frank Minett, Frederick George Goble, and Herbert Acland Browning (dated Feb. 10th, 1914).

The following appointments have been notified:—Fleet-Surgeons: W. E. Marshall to the *Duke of Edinburgh*, on recommissioning; C. M. Beadnell to the *Shannon*, on recommissioning; and H. Huskinson to the *Thunderer*. Staff-Surgeons: H. B. Hill to the *Highflyer*, and for Physical Training duties; P. T. Nicholls to the *Vivid*, additional; A. A. Forrester to the *Implacable*, temporarily: W. G. Edwards to the *Duke of Edinburgh*, on recommissioning; and E. F. Ellis to the *Alecto*, temporarily. Surgeons: C. V. Griffiths to the *Shannon*, on recommissioning; and R. M. Riggall to the *Pembroke*, additional, for disposal.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentlemen have been appointed Surgeons:—William Norman Pickles, Edward Philip Punch, and Robert Traill Brotchie (dated Feb. 12th, 1914).

ROYAL ARMY MEDICAL CORPS.

Major Henry N. Dunn to be Lieutenant-Colonel, vice M. O'D. Braddell, retired (dated Feb. 4th, 1914).

Captain Benjamin A. Odlum is seconded for service under the Colonial Office (dated Jan. 1st, 1914).

Colonel G. D. Hunter has taken up duty as Assistant Director of Medical Services to the Allahabad Brigade. Colonel M. W. Russell has been selected for appointment as Assistant Director of Medical Services to the Malta Command, in succession to Colonel R. Porter, placed on half pay.

Lieutenant-Colonel D. D. Shanahan has arrived home for duty from Ootacamund. Lieutenant-Colonel J. Girvin has been appointed to hold charge of the Military Hospital at the Curragh Camp. Lieutenant-Colonel J. M. F. Shine has been appointed to hold charge of the Military Hospital at

Nowshera. Lieutenant-Colonel J. Fallon has been appointed to hold charge of the Military Hospital at Chakrata Cantonment. Lieutenant-Colonel C. T. Blackwell has taken over charge of the Military Hospital at Hyderabad, Sind.

Major H. E. M. Douglas, V.C., D.S.O., has taken up duty at the Military Hospital, Cairo. Major A. W. N. Bowen has been appointed to the Irish Command. Major L. L. G. Thorpe has embarked for a tour of service in India. Major C. H. Carr has been transferred from the Military Hospital at Tidworth to Upavon, Salisbury Plain. Major E. S. Clarke has relinquished charge at Holywood. Major E. P. Connolly has been appointed Deputy Assistant Director of Medical Services (Mobilisation Branch) to the Second (Rawal Pindi) Division of the Northern Army in India. Major H. D. Packer has been placed under orders to embark for a tour of service in India. Major E. W. Slayter has been appointed to the Irish Command. Major G. St. C. Thom has been appointed to Glasgow. Major H. Herrick has been appointed for duty in the Belfast District. Major D. Lawson has embarked for Mauritius. Major M. MacG. Rattray has joined at Shorncliffe. Major H. W. H. O'Reilly has been appointed to the Ninth (Secunderabad) Division. Major P. S. O'Reilly has been appointed to the Irish Command. Major H. F. G. Stallard has been appointed Deputy Director of Medical Services (Mobilisation Branch) to the Fifth (Mhow) Division of the Southern Army. Major B. Watts has arrived home for duty from the Military Hospital at Meerut Cantonment. Major J. W. West has been transferred from the Military Hospital at Murree to Rawal Pindi Cantonment. Major B. F. Wingate has joined the London District.

Captain W. B. Purdon has been appointed to the Irish Command. Captain R. C. Priest has been transferred from the Military Hospital at Lebong to Allahabad Cantonment. Captain C. T. V. Benson has taken up duty at the Military Hospital, Madras. Captain W. E. C. Lunn has been appointed to the Aldershot Command. Captain R. H. MacNichol has been selected for appointment as Specialist in Dermatology and Venereal Diseases at Malta. Captain C. G. Sherlock has been transferred from the Military Hospital at Dalhousie Cantonment to Lahore. Captain C. R. Millar has been appointed to the Irish Command. Captain E. V. Vaughan has joined the Southern Command. Captain G. F. Rudkin has been appointed to the Irish Command. Captain T. H. Gibbon has been selected for appointment as Clinical Pathologist to the Military Hospital at Dublin. Captain A. W. Byrne has been transferred from Kasauli Cantonment to the Military Hospital at Lahore. Captain E. D. Caddell has taken up duty in the Irish Command. Captain S. McK. Saunders has arrived home on leave of absence from Alexandria. Captain A. N. R. McNeill has been appointed to the Northern Command for a tour of duty. Captain G. G. Collet has been transferred from Karachi Cantonment to the Military Hospital at Meerut. Captain W. E. Marshall has been appointed to the Irish Command. Captain T. H. Dickson has taken up duty in India. Captain A. G. Wells has joined at Ambala. Captain R. Rutherford has been appointed to the Western Command. Captain A. C. H. Gray has been selected for appointment as Assistant Professor of Pathology and Bacteriology at the Royal Army Medical College, vice Major S. L. Cummins. Captain D. de C. O'Grady has arrived home for duty from India. Captain A. H. Heslop has been appointed to the Aldershot Command. Captain H. M. J. Perry has been appointed to the London District for duty at the Military Hospital, Rochester-row. Captain T. B. Nicholls has arrived home on leave of absence from the Military Hospital at Cyprus. Captain A. C. Elliott has been appointed to the Eastern Command. Captain J. McKenzie has taken up duty at the Military Hospital, Calcutta. Captain W. Mitchell has been appointed to the Western Command. Captain M. O. Wilson has been appointed for duty on board the transport s.s. *Dongola*, leaving Karachi for Southampton on Feb. 18th. Captain W. A. Spong has been granted six months and a half leave of absence home from India. Captain A. Irvine Fortescue has been selected to proceed to Japan for a three years' course of study of the Japanese language. Captain J. B. Meldon has taken up duty at the Military Hospital, Gibraltar. Captain M. Keane has joined at Bulford Camp.

Lieutenant W. L. Webster has embarked for a tour of service in Egypt. Lieutenant H. C. D. Rankin has been appointed for duty at the Cambridge Hospital. Lieutenant C. M. Finny has been transferred from the Military Hospital at Changli Gali, Murree Hills District, to Ambala Cantonment. Lieutenant W. S. R. Steven has taken up duty at Karachi. Lieutenant H. C. Todd has embarked for a tour of service in India. Lieutenant S. P. Sykes has been appointed to the Military Hospital at Rawal Pindi Cantonment for a course of instruction in Indian sanitation. The following Lieutenants have taken up duty in India:—T. E. Osmond, R. T. Vivian, E. G. H. Cowen, L. Buckley, E. B. Allnut, E. C. Deane, and A. S. Heale.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons has been selected for appointment as President of the Bombay Medical Council, vice Surgeon-General H. W. Stevenson, resigned.

Lieutenant-Colonel S. E. Prall has been granted privilege leave of absence for two months. Lieutenant-Colonel J. C. Hulbert has taken up duty as Civil Surgeon at Moradabad. Lieutenant-Colonel S. H. Burnett has joined at Bombay. Lieutenant-Colonel W. R. Edwards, C.M.G., Bengal Presidency, has been appointed a First-class Agency Surgeon. Lieutenant-Colonel B. R. Chatterton has been granted privilege leave of absence for one month. Lieutenant-Colonel A. Buchanan, civil surgeon at Saugor, has been appointed to the executive and medical charge of Saugor Jail. Lieutenant-Colonel A. W. Dawson has been granted an extension of service up to June 22nd next to complete 30 years' service for pension. Lieutenant-Colonel R. H. Castor has been granted an extension of leave of absence home from India for six months on medical certificate.

Major N. R. J. Rainier, civil surgeon at Saugor, has been granted privilege leave of absence home from India for three months, combined with furlough for one year and five months and study leave for four months. Major W. E. McKechnie has been granted privilege leave combined with furlough home from India for a total period of two years. Major L. Adams-Williams has been placed under orders to embark for India. Major T. H. Delany, civil surgeon at Aaran, has been granted combined leave of absence home from India for 13 months. Major F. F. Elwes, C.I.E., has been selected for appointment as Professor of Medicine at the Medical College, Madras, and First Physician to the General Hospital at Madras City.

Captain F. P. Wernicke, civil surgeon to the Seoni District, has been appointed to hold executive and medical charge of the Seoni Jail. Captain P. M. Rennie has taken up duty as Officiating Health Officer and Civil Surgeon of the notified area at Delhi during the leave of absence of Lieutenant-Colonel J. D. Ogilvie. Captain H. Crossle has been confirmed in the appointment of an Agency Surgeon of the Second Class to the Foreign Office of the Government of India. Captain N. M. Wilson, civil surgeon at Dehra Ghazi Khan, has been appointed Plague Medical Officer at Gurdaspur. Captain C. H. Brodribb has been selected for appointment as Specialist in Advanced Operative Surgery. Captain J. Anderson, officiating agency surgeon of the second class, has been appointed Civil Surgeon at Miranshah. The services of Captain O. A. R. Berkeley-Hill have been placed temporarily at the disposal of the Government of Bombay Presidency.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supernumerary Captain William M. Browne is restored to the establishment (dated April 6th, 1913).

The undermentioned Lieutenants are confirmed in their rank: William W. Wagstaffe and Ernest F. W. Grellier.

TERRITORIAL FORCE.

Royal Engineers.

Wessex Divisional Engineers, Royal Engineers: Surgeon-Captain Edward G. Stocker to be Surgeon-Major (dated Jan. 12th, 1914).

Royal Army Medical Corps.

Major John Duncan Graham Macpherson, Royal Army Medical Corps, to be Deputy Assistant Director of Medical Services of a Territorial Division (dated Jan. 29th, 1914).

Attached to Units other than Medical Units.—Captain Arthur Roberts to be Major (dated August 8th, 1913). Surgeon-Major James Soutter resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated Feb. 14th, 1914). Lieutenant William L. Hodge resigns his commission (dated Feb. 14th, 1914).

Sanitary Service.—Captain James W. Somerville resigns his commission (dated Feb. 18th, 1914).

Officers Training Corps.—Cambridge University Contingent, Senior Division, Officers Training Corps: Captain Henry B. Roderick, Royal Army Medical Corps, Territorial Force, to be Major (dated July 4th, 1913).

TAUNTON AND SOMERSET HOSPITAL.—At the recent annual meeting of the subscribers to the Taunton and Somerset Hospital the financial statement showed a favourable balance. The committee has decided to carry out considerable structural alterations in the hospital in order to provide a new operating theatre and anæsthetic room, and also to improve the children's wards and provide shelter for the use of patients. The scheme has been liberally supported financially, the Hon. Mrs. Portman having subscribed £400, the Hon. H. B. Portman £1000, and the late Mr. T. S. Whitaker £500.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 414.*)

XXXVII.—LONDON: ORGANISATIONS FORMED TO COMBAT THE ACT.

WE have seen that from the Provisional Medical Committee, framed at the instigation of the British Medical Association, other organisations, notably the National Medical Guild, emerged. To the London Medical Committee, as well as to the National Medical Guild, I have already referred—it may seem very belated at this time to explain the constitution of these bodies, but without doing so what is happening cannot be understood. I have had the great advantage of the help of Dr. C. Buttar in writing the following description of a complicated situation.

When the Representative meeting of the British Medical Association on Jan. 18th, 1913, declared the pledge to be no longer binding on members of the medical profession, various bodies which had contended hitherto for one common object under a variety of titles adopted pronounced views in somewhat different directions. At the same time certain new bodies sprang up or were evolved from older associations. The nomenclature of these bodies has become rather confusing, so that it is well to attempt to reduce matters to some sort of order and to endeavour to explain the objects at which each aims. They are not all bodies having their origin in London or confining their working to London, though it is convenient to describe them while the working of the Act in London is under consideration. The following definitions would seem to be fairly correct:—

1. *State Sickness Insurance Committee.*—A committee of the British Medical Association originally appointed to deal with negotiations on matters connected with the Insurance Bill. The title has now been changed to—

2. *Insurance Act Committee.*

3. *Provisional Medical Committees.*—Formed at the instigation of the State Sickness Insurance Committee in each insurance area. They consisted of members of the British Medical Association and of non-members, elected at meetings open to the whole profession in each area. The meetings were organised through the divisions of the Association. It was intended that, in the event of the Act and Regulations being rendered acceptable to the profession, these committees should become—

4. *Statutory Medical Committees* under the Act.

5. *British Medical Reform Committee*, formed in London, but now extinct.

6. *National Medical Union*, formed in Manchester, and now the federating body for non-panel associations.

These two organisations originally voiced the dissatisfaction at the methods adopted by the British Medical Association in its negotiations with the Government during the passage of the Bill.

7. *Edinburgh Medical Guild.*—A local body of similar views to the National Medical Union, now one of the associations federated to that organisation.

8. *London Medical Committee.*—Taking its origin from the Provisional Medical Committee for the County of London. A fighting committee formed at the eleventh hour to resist the working of the Act in London.

9. *National Medical Guild.*—Registered by a subcommittee of the London Medical Committee under the Trade Union Acts for the purpose of resisting further encroachments on the liberty of the profession. Membership panel and non-panel.

10. *Leicester Medical Union.*—A local trade union. The only other medical trade union in existence in this country besides the National Medical Guild.

11. *Non-panel Medical League.*—Arose during the Representative Meeting at Brighton in July, 1913, for the purpose of federating non-panel associations throughout the country. The executive of this body was objected to by certain non-panel men because many of its members were connected with the Council of the British Medical Association and other organisations. The Non-panel Medical League is now in a state of suspended animation in order to leave the field open to the National Medical Union which has taken on the function of coördinating non-panel views.

12. *Non-panel Committee of the British Medical Association.*—A recently formed committee with the object of focussing the views of non-panel members of the Association, and counterbalancing the proceedings of the Insurance Act Committee now concerned chiefly with panel questions.

This list leaves out of count the numerous local non-panel associations which exist throughout the country, the National Insurance Practitioners' Associations, and any other purely panel organisations which may exist, and also the Panel Committees formed under the Amending Act of 1913.

The present article deals chiefly with the formation and later development of the London Medical Committee, whose name and constitution have been considered by some to be quite irregular, but whose actions at all events were strenuous and virile.

Towards the end of 1912 the only way in which the British Medical Association showed any appreciation of the near approach of the actual working of medical benefit was in the suggestion made by the State Sickness Insurance Committee that a provisional medical committee should be formed in each insurance area. These committees had to be accessible, of course, to the entire profession, and not merely to the members of the British Medical Association. The suggested formation of these committees savoured a good deal of the pliable policy displayed throughout by the Council of the Association; but it was intended that they should become statutory committees *only in the event of the Act and regulations being rendered acceptable to the profession.* In the majority of insurance areas throughout the country these provisional medical committees were elected, consisting of members of the Association and of non-members; of practitioners in favour of the Act and of practitioners against it; and there is no doubt that they were extremely good and representative committees. After their formation these committees in many instances went to sleep; and the State Sickness Insurance Committee retired just before Christmas, 1912, to take a rest of two or three weeks, apparently quite oblivious of the fact that medical benefit would come into force on Jan. 15th, and that the profession had received no direction whatever how to meet the emergency.

The Provisional Medical Committee for the County of London was thoroughly representative. It was chosen according to borough areas, care being taken that every borough should have a representative, though the election itself was carried out through the divisions of the Association. The committee included consultants and members of hospital staffs, general practitioners of every shade of opinion, Poor-law medical officers, men who were in favour of the Act, practitioners in industrial areas who were strongly opposed to the Act, and men who never under any consideration whatever would find it necessary to go on the panel. Non-members of the British Medical Association were duly represented. Two days after Christmas the committee met for the first time, and it was plain from the outset that the temper of the great majority was strongly opposed to the working of

the Act. It was from the uncompromising attitude of the great majority of the members of the Provisional Medical Committee for London that one of the most dramatic features of the struggle against the Insurance Act took its origin; for almost from the outset, and nearly three weeks before the pledge was removed by the Representative Meeting on Jan. 18th, the committee had practically transformed itself into the London Medical Committee. Exception has been taken to this name as likely to be confused with the Statutory Medical Committee for the County of London, which even at the present moment is non-existent. But the representative character of the London Medical Committee at the time of its inception justified the use of this name, and it is claimed that the resulting inconvenience could not have been foretold.

The process of formation of the London Medical Committee may be described as follows. In the first place, the Provisional Medical Committee more or less retired into the background until it might happen to be needed. Next two or three members of the original committee who chanced to be supporters of the Act sent in their resignations, a course followed by a few other members. Then the new committee was, very early in its existence, strengthened by the addition of members of the Council of the British Medical Association, who represented the Metropolitan Counties Branch. At that time—three weeks before medical benefit came into force—the vast majority of London practitioners was strongly opposed to the Act, and gladly supported an organisation which looked like showing courage in the time of need.

One of the first acts of the London Medical Committee was to summon by telegram the State Sickness Insurance Committee, who appeared to be inclined at first to resent the activity urged upon them. For the wish of the London Medical Committee was to extend to the provinces the campaign suggested for London, and to endeavour even at the eleventh hour to induce the British Medical Association to take prominent action. After much debate the State Sickness Insurance Committee declined to take part in the campaign, but agreed to give its approval to the London Medical Committee opening offices and carrying on its propaganda from the headquarters of the Association.

It is asserted by some that the London Medical Committee had no legal existence, that it was a revolutionary committee, that it was there to resist the law. At any rate, it was the only body which made a determined effort to carry out the expressed desires of Representative Meeting after Representative Meeting of the British Medical Association, and of the majority of the medical profession so far as they were ascertainable at that time. And inasmuch as those who had authority did little or nothing, no one questioned those who did something, even though they had not authority.

The London Medical Committee soon began to make its mark. It met frequently, and its leaders spent nearly all their time at the offices at 429, Strand, organising and carrying on the business of the committee. The newspapers were filled with its doings or with information supplied by the committee. It urged the full application of Section 15 (3) of the Act, permitting insured persons to make their own arrangements. It held meetings of insured persons all over London, at which resolutions were passed with very little opposition demanding the right to contract out with the insured person's own doctor. The hoardings were placarded with posters and handbills were distributed; and as a result an enormous number of petitions were received by the London Insurance Committee from insured persons asking to be allowed to make their own arrangements for medical attendance.

The achievements of the committee soon began to be discussed in the House of Commons. Mr. Worthington Evans voiced their cause in the House by protesting that the authorities had interfered with the free choice of doctor, had prevented private arrangements being concluded, and had made "threats" to send men where doctors refused to serve on the panel and impose these strangers on the insured. Such threats had "poisoned the whole administration of the Act." Dr. C. Addison, taking the other side, described the London Medical Committee as "hot heads" who ignored the interests of the insured, prevented doctors from going on the panel, and had "set every public authority in the country against them." The greatest testimonial ever received by the London Medical Committee was probably when Dr. Addison stated that had it not been for that committee there would have been 1000 more practitioners on the London panel. Mr. Lloyd George spoke of doctors who put forward a "wild-cat" scheme. Thus it will be seen that the London Medical Committee early contrived to get excellent advertisement.

The committee organised several subcommittees to deal with different portions of its work; it gave a great deal of information and assistance to medical men in London; and it was responsible for a successful and well-arranged meeting in the Queen's Hall, under the chairmanship of Sir Thomas Crosby.

One of the subcommittees of the London Medical Committee was appointed for the purpose of considering the formation of a trade union. It was recognised that the constitution of the British Medical Association renders it unable to grapple successfully with emergencies as they arise, while the impossibility of setting its funds free from liability to attachment prevents any of its schemes for the formation of a special fund ever being established on a safe footing. When the actual fight was over many of the active participants turned their attention to the development of the National Medical Guild. Formed in March, 1913, by the members of the subcommittee, the guild was registered in July on the application of the 12 original members of its council. Originally the whole of the members of the subcommittee were non-panel men; but it was recognised that in any future fight that may occur no sectional body will have any chance of success, and that a trade union must contain within its ranks the majority of medical practitioners. Meanwhile, as this went on, and the strenuous fighting of early days became no longer possible, a divergence of opinion became apparent amongst the members of the London Medical Committee. This was a perfectly natural result when the cohesive effect of the first enthusiasm began to lose its power. The divergent lines of thought were represented on the one hand by those who considered that the ultimate success of the profession consists in an all-inclusive trade union under strong central management, and on the other by those who believed that united action by non-panel men in maintaining the old world view of the dignity of

medical practice would sufficiently impress both the Government and the public to bring about a reversal of the system adopted under the Insurance Act. The former party is now represented by the National Medical Guild, the latter by the purely non-panel association the National Medical Union. To the latter what remains of the London Medical Committee is now federated; but inasmuch as local non-panel associations now exist in many parts of London, it is hardly likely that the London Medical Committee, somewhat changed in character, and possibly becoming superfluous, will prolong its activities for any length of time.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

NEWCASTLE-ON-TYNE.

College of Medicine, Newcastle-on-Tyne.

THE annual meeting of the University of Durham College of Medicine was held on Feb. 11th in the college, Councillor W. J. Sanderson, chairman of the board of governors, presiding. Sir George Hare Philipson was unanimously re-elected vice-chairman of the governors, and Professor Rutherford Morison and Mr. Herbert Shaw (the Sheriff of Newcastle) were elected as representatives on the council of the college. The various reports were adopted. The finances showed that the receipts for the year amounted to £9518 and that the deficiency had been reduced by £189. The treasurer of the college, Mr. Cecil Cochrane, referred to the handsome legacy of £10,000 bequeathed to the college by the late Miss Easton, which would enable the authorities to free the college from the incubus in the way of mortgages on land and buildings under which it had laboured for many years. It was announced that arrangements had been made during the past year with the honorary medical and surgical staff of the Royal Victoria Infirmary, Newcastle-on-Tyne, regarding the clinical portion of the students' curriculum, and that the settlement had received the sanction of the Board of Education. The chief results of these arrangements were: (1) that the fees for clinical teaching are paid to the college, and the college is responsible for the payment of the clinical teachers; and (2) that the clinical teachers will elect two of their members to act on the college council.

Hospital Accommodation of Newcastle.

On Jan. 28th the Lord Mayor of Newcastle opened the first block of a new infirmary attached to the workhouse and formally handed over the building to the chairman of the board (Mr. Lonsdale). The latter stated that the whole scheme would consist of six blocks similar to that which was being opened, and would have nearly a thousand beds and an administrative block. The block which was opened is erected just north of the present workhouse buildings and faces south. The total accommodation provided is for 154 patients. It is built in two floors, the lower of which is to be used for general cases, while the second floor is for the treatment of incipient cases of phthisis. The total cost of the block is £21,587, including furnishings, which thus works out at about £133 per bed. The chairman of the board dealt with the hospital accommodation in Newcastle and district, and quoted the remarks of a Local Government Board inspector as to the excellent position which Newcastle occupied in comparison with other great cities. There are in Newcastle 19 hospitals, in addition to private hospitals and dispensaries, with accommodation for 2750 beds, which is approximately 1 per cent. of the population. Thirteen of these with 800 beds are supported by voluntary contributions; two with 150 beds are private institutions; two hospitals with 340 beds are maintained out of city rates; one with 900 beds is supported, eight-ninths out of poor rate, one-ninth out of city rate; and one hospital is maintained solely from the poor rate. Between £40,000 and £50,000 per year are paid out of the poor rate for the care and treatment of the sick poor in hospitals; and yet all this accommodation in and around Newcastle is far from sufficient to meet the needs. The Royal Victoria Infirmary, built only a few years ago, has been found to be too small, and the house committee are seriously contemplating great extensions. At the Infectious Hospital some £12,000 are shortly to be expended in providing more accommodation. At the Mental Hospital at Coxlodge further extensions are in operation which will cost about £25,000. The chairman concluded with a reference to the great increase made in the medical and nursing staffs during the last few years.

Feb. 17th.

WALES AND WESTERN COUNTIES.

Tuberculosis Scheme for Pembrokeshire.

EXCLUDING Pembrokeshire, all the county councils and county borough councils in Wales and Monmouthshire have handed over the administration of sanatorium benefit under the National Insurance Act to the Welsh National Memorial Association, the councils contributing to the funds of the association sums equal to a rate of ½*d.* in the £ in the respective districts. The Pembrokeshire county council, however, at its meeting on Feb. 3rd resolved, on the recommendation of the public health and housing committee, by 31 votes to 13, to submit to the Insurance Commissioners for Wales a separate scheme. The scheme contemplates the erection of a temporary hospital to accommodate 18 patients at a capital cost of £1700, the establishment of a central dispensary at Haverfordwest, and also of branch dispensaries at Cardigan, St. David's, Fishguard, Tenby, and Pembroke Dock, with five shelters for loan to patients; the administrative work to be carried out by the county medical officer of health with an assistant tuberculosis officer, who will be paid a salary. The estimated total cost of the scheme is £3303 per annum, which, when reduced by grants from the Insurance Committee, boards of guardians, and the Treasury, will amount to £1152, a sum about equal to a rate of ¼*d.* in the £ on the rateable value of the administrative county.

Cardiff Medical School.

The Cardiff Medical School has hitherto been housed in the old infirmary buildings in Newport-road, with the addition from time to time of various one-storey iron or wood annexes. This arrangement of the school buildings is far from what could be desired, though the teaching staff has readily submitted to the difficulties in anticipation of the erection of more complete buildings adjoining those of the University in Cathays Park. The complete scheme of the University buildings included medical school buildings, but lack of funds has hitherto stood in the way. In 1912, however, Sir James

Thomas offered to give 10,000 guineas towards the erection of a physiological department. Eventually he increased this sum, provided the medical school buildings were erected on the site of the existing school, which has an area of nearly three acres and is quite close to the Cardiff Hospital. The total cost of the new buildings is estimated at £90,000, and of this sum one-third has been promised by Sir James Thomas and the remainder by an anonymous donor. When the new buildings are completed a complete medical school in which the full five years curriculum can be taken will be available. The clinical material in Cardiff is very varied, and is provided in the wards of the King Edward VII.'s Hospital, the Seamen's Hospital, the Isolation Hospital, the Mental Hospital, and the Tuberculosis Sanatorium. A deputation consisting of Lord Kenyon, Lord Merthyr, Colonel E. M. Bruce Vaughan, Dr. Ewen J. Maclean, Sir Almroth Wright, and Professor D. Hepburn, and introduced by Mr. David Davies, M.P., to urge a Treasury grant for the maintenance of the school, was sympathetically received by the Chancellor of the Exchequer on Feb. 12th.

Welsh National Memorial Sanatorium.

The Welsh National Memorial Association has already taken over one sanatorium in South Wales and another small one in North Wales. It is the intention of the association to erect at least three other institutions, one in the north, one in the south, and the other in mid-Wales. That in South Wales is to be erected on a site of nearly 400 acres, and will accommodate 250 adults and 54 children.

Decrease of Vaccination in the West of England.

At the last meeting of the St. Thomas's (Devon) board of guardians it was shown that during the last six months 350 successful vaccinations had been performed and 142 conscientious exemptions granted, as compared with 420 vaccinations and 109 exemptions for the preceding six months. Some of the members "deplored such an increase of exemptions."

A Useful Charity.

During 1913 13 patients in the last stage of illness were admitted to the Ernsborough House, Exeter. The number of weeks spent in the home by these 13 patients was 397, at an average expenditure of 19*s.* per patient. The financial statement showed a small deficit. It is hoped, through the generosity of Mrs. Godfrey Walker, to purchase larger premises so as to admit 20 patients.

Need of Isolation Hospitals in Cornwall.

The medical officer of health for Liskeard, Cornwall, Mr. W. Nettle, in his annual report for 1913, states that the provision of an isolation hospital for infectious diseases is urgently required. The need of an isolation hospital is also urged by the medical officer of health for St. Austell rural district council in his annual report.

Feb. 17th.

IRELAND.

Dinner of the Royal College of Surgeons.

ON Feb. 11th the Charter Day dinner of the Royal College of Surgeons of Ireland was held, the President, Mr. R. D. Purefoy, being in the chair. The Lord Lieutenant of Ireland accepted the invitation of the College to be present. There was an exceptionally large attendance of Fellows and guests. Speeches were made by the Lord Lieutenant, the President, the Vice-President (Mr. F. Conway Dwyer), the Master of the Rolls, Dr. James Little, the Rev. J. P. Mahaffy, and Sir Charles A. Cameron. At the close of the dinner the Lord Lieutenant, on behalf of the Council, presented the President with a silver tray as a mark of recognition of the way in which he had performed the duties of his office. At the same time he asked the President to accept for his sister, Miss Purefoy, a handsome pendant.

The Rotunda Hospital.

At the last meeting of the board of governors of the Rotunda Hospital Dr. T. P. C. Kirkpatrick was elected a governor in recognition of his eminent services to the hospital in writing its history.[1] In the ordinary way governors are elected from those who have given to the funds of the hospital a sum of not less than £100, and it is very rarely that the board has exercised its power of electing a governor in recognition of "eminent services to the hospital."

The Friendly Societies in Limerick.

For the past 15 months there has been a dispute between the medical profession of Limerick and the Friendly Societies operating there. The medical men in the autumn of 1912 gave notice to terminate their agreements for medical attendance on members of Friendly Societies and their families. At the same time they stated that they would be willing to give attendance at the rate of 8*s.* 6*d* per member for attendance on the member alone or 12*s.* for attendance on the member and his dependents. The societies refused to accept these terms, and for more than a year it was found impossible to make any arrangement. The societies have now capitulated, accepting the terms offered by the profession, and reappointing their former medical officers. The medical men of Limerick are to be congratulated on the courage and determination with which they have stood together.

Old-age Pensions in Ireland.

The following figures show the number of old-age pensioners on March 31st, 1913, in the three kingdoms:—

Country.	Population 1911.	Number of old-age pensioners.	Proportion of pensioners to 1000 of population.
England and Wales ...	36,070,492	668,646	18·5
Scotland ...	4,760,904	96,239	20·2
Ireland ...	4,390,219	203,036	46·2
Total ...	45,221,615	967,921	21·4

In other words, it appears that while in 1911 the population of Ireland was more than 370,000 less than that of Scotland, Ireland on March 31st, 1913, had 106,800 more old-age pensioners. The average number of old-age pensioners in the administrative counties of Ireland was 51·92 per 1000 of the population, ranging from 20·19 in Dublin County, to 70·02 in Leitrim County. The population of Ulster was (in 1911) 1,581,696, the total number of old-age pensioners 70,657, and the proportion to population 44·7 per 1000. With the exception of Dublin County (which is largely residential) Belfast City has the smallest number of old-age pensioners in proportion to population of any scheduled area in Ireland.

The Cottage Hospital, Coleraine.

A two days' bazaar, having for its object the raising of £1000 or more to clear off an old debt and to defray the cost of recent renovations to the Cottage Hospital, Coleraine, was opened by Lady

[1] THE LANCET, Feb. 14th, 1914, p. 470.

O'Neill in Coleraine on Feb. 11th. The effort is being warmly supported by all creeds and classes living in North Antrim and North and South Derry.

Poliomyelitis in Fermanagh.

Mr. Acheson Aiken, medical officer of Irvinestown dispensary district, co. Fermanagh, has reported a serious outbreak of poliomyelitis in his district, there being 12 cases under treatment. The onset of the disease in those affected was very sudden No cause for the outbreak can be given.

Feb. 17th.

PARIS.

Military Service and the Deaf.

Dr. Maurice, in a communication to the Société Médicale des Praticiens, calls attention to the serious losses sustained in recruiting for the army through the rejection of the deaf. According to the statistics of the Ministry for War 921 recruits are lost on account of deafness—viz., 510 exempt, 296 transferred to auxiliary service, and 115 rejected. The total deficit of the three classes means a total loss in the three years of service of 2763 young men, who but for their infirmity would form a fine regiment. Dr. Maurice's method of auditory re-education consists in subjecting the ear to the recurrence of sounds whose pitch, intensity, and timbre have been studiously selected for this end. The ear is educated to hear sounds varying from 80 to 5500 vibrations a second, a range adequate to include all the vibrations that the human larynx can emit. Very satisfactory results have thus been obtained. The disappearance of the tympanum and the ossicles is often compatible with a sufficient audition for military requirements. It would not be necessary to establish a special regiment with specialist medical officers in order to be able to enlist the deaf; it would suffice to begin by treating at the military school of Val de Grâce the 115 soldiers suffering from deafness who at the present time are actually enlisted yearly, kept awhile under observation, and finally discharged for physical incapacity. As these men are not infirm in the ordinary sense of the word, they could be made to work. Re-education could cure, or at any rate considerably ameliorate, their condition in from 25 to 60 days. If this plan proved successful the 510 exempts need no more be returned to their homes, for deafness would be no longer a cause for rejection. Formerly those with hernia were rejected wholesale. Now they are enlisted. It is true they cannot be compelled to submit to operation, but they have either to undergo service as they are, or to be operated on; and the suffering leads them to submit to an operation which can hardly be considered dangerous. The deaf would be subject only to the same lot; indeed, their position would be even better, since in their case there is usually no question of operation.

A Proposed Ministry of Public Health.

The serious discussions in regard to leprosy which are taking place at present between the medical profession and the public health authorities have drawn attention to the question of centralising in a single service, with the title of Ministry of Public Health, all the departments dealing with hygiene, which are now scattered among different ministerial departments under conditions that materially impede their working. Hygienic functions, in point of fact, are to be found being discharged by most of the Ministries. The Ministry of the Interior controls matters relating to the Assistance Publique, the hospitals, the prevention of epidemics, and the hygienic staff. The hygiene of emigrants is under the Ministry of Commerce. Adulteration and food hygiene are controlled by the Ministry of Finance. Medical congresses are under the Ministry of Public Instruction. Legal medicine is controlled by the Ministry of Justice. Epizootics and the prevention of diseases transmissible by animals, such as glanders and anthrax, come under the Ministry of Agriculture; while international sanitary regulations are in the province of the Ministry of Foreign Affairs, not to mention the special sanitary organisations established by the Army, Navy, and Colonial Departments. Some years ago Senator Strauss showed the necessity for uniting all the organisations into one service. M. Mirman has now advocated this redistribution of the services, which would entail no new expense, but simply a closer centralisation. Not all medical men favour this plan, however, for many think it would result in an officialisation of medicine, which would materially hamper the independence of the profession.

The Electrical Conductivity of Blood Serum.

Professor Widal and his assistant, Dr. Javal, whose work in regard to chloride and nitrogen retention is well known, have brought before the Académie des Sciences a mode of estimating the chloride retention in blood serum and organic fluids. This method, added to chemical analysis and cryoscopy, gives valuable information on the variation of chlorides in different subjects and in the same subject, or in the course of the same disease. The method of electrical resistance makes it possible to determine variations of great importance amounting to as much sometimes as a gramme to the litre. The method can be very easily and rapidly practised.

Death of M. Bertillon.

The death of M. Bertillon from anæmia occurred at Paris on Feb. 13th. M. Bertillon, though not a medical man, was the son, grandson, and brother of medical men, and his own studies in the use of anthropometry as a means of identifying criminals closely allied him to medicine. He was born in Paris in 1853, and was head of the identification department in the Prefecture of Police of Paris.

Feb. 16th.

VIENNA.

Public Health Statistics for December, 1914.

THE exceptionally warm and dry weather which prevailed in this city during the last month of 1913 is acknowledged to have been the cause of a very favourable condition of the public health, as observed in the report of the Board of Health. During this month 2320 persons died, being a mortality-rate of 13 per 1000 inhabitants, and there were 2690 births of living children, with 280 still-births. There was not a single fatal case of typhoid fever, cholera, or measles, but there were 20 deaths due to scarlet fever, 17 to whooping-cough, 28 to diphtheria, 406 to tuberculosis, 4 to erysipelas, and 216 to neoplasmata. An isolated outbreak of small-pox which occurred in January

is mentioned in a separate paragraph. The following cases of disease were reported under the Notification of Infectious Diseases Act. Puerperal fever, 4; scarlet fever, 250; diphtheria, 251; trachoma, 4; epidemic poliomyelitis, 1; influenza, 2; and typhoid fever, 3. The month was characterised by an absence of severe pulmonary and bronchial diseases and a marked decline in the infant mortality, whilst the duration of sunshine observed in Vienna was 109 hours, an amount far in excess of the average figure.

Small-pox in Vienna.

Small-pox, that former scourge of Europe, is so uncommon in this city that much interest has been aroused by the recent appearance of six isolated cases. A few weeks ago a man engaged in the delivery of bread to customers' houses became ill, and as the nature of his disease was not recognised at once he was permitted to follow his occupation, although mature pustules were visible on his face. When the diagnosis of small-pox was eventually made he had already infected his wife and his son, a boy of 4 years of age. Three other persons were also attacked, but owing to the very complete prophylactic and disinfectant precautions taken by the authorities of the Board of Health the outbreak was suppressed. The boy mentioned above died from angina, complicated with cardiac paralysis. The fact that the older patient could walk about without trouble, and that his illness was not recognised at first, is a proof how rare, and therefore how comparatively unknown, small-pox is now in this country. It is chiefly due to the extensive vaccination of the people which has reached a very high degree here. Although there is no actual compulsion for the general population, candidates for nearly all appointments, both public and private, as well as for municipal or State service, have to be vaccinated, and it may be safely said that in Vienna over 99 per cent. of the population have been vaccinated at least once. When there was a small-pox scare a few years ago it was found that those who had for some reason or other neglected this precaution were very willing to have the operation performed notwithstanding the slight interference with their general health.

Alteration of the Height Standard for the Austro-Hungarian Army and Navy.

Under the new law recruits for the Austro-Hungarian army and navy must have a height of at least 152 centimetres (5 feet), whilst those recruits who will have to work as artisans or at some trade in the army or navy, or as clerks in offices, may be accepted if their height is not less than 150 centimetres (4 feet 11 inches). The old law required a minimum height of 5 feet 1 inch for ordinary soldiers or sailors, whilst the artisans or tradesmen could be recruited without any regard being paid to their height. This departure from the old standard has been introduced on account of the necessity for obtaining a larger number of soldiers fit for work and service under the increased military precautions which have been taken in this country during the last 12 months. It has been noted that a considerable percentage of recruits had to be rejected, especially among those coming from certain poor districts, where the people are underfed, owing to the height-limit not being reached, although otherwise they were quite fit for service and willing to become soldiers. At present not even 1 per cent. of our population is required for military service in time of peace, whilst in other countries—such as Germany, France, and Italy—over 1·5 per cent. have to serve annually with the colours. It may be noted that the Austrian standard is higher than the French one, which goes below the 150 centimetres.

Feb. 16th.

INDIA.

The All-India Sanitary Conference.

THE provisional programme of the All-India Sanitary Conference at Lucknow shows that the members will have a very busy time. On the first day there will be the opening address by Sir H. Butler. Papers on milk standards and the milk trade will be furnished by several medical men, and municipal drainage will be discussed. The early morning of the second day will be devoted to an inspection of the sanitation and improvements of Lucknow, and after breakfast there will be the opening address in the Research Section by Sir C. P. Lukis, Director-General, Indian Medical Service, the remainder of the day being given over to papers on malaria by Lieutenant Doctor Froilano de Mello (of Goa), Sir Ronald Ross, Major S. R. Christophers, Major E. L. Perry, Major J. L. Marjoribanks, Dr. W. R. Macdonald, and Dr. C. A. Bentley. In the evening there will be popular lectures on goitre by Major R. McCarrison and on malaria by Major Christophers. On the 21st reports on town planning and papers on mosquitoes and kala-azar will be communicated. On the 22nd there will be a visit of inspection to Benares, and the 23rd will be devoted to infantile mortality, notification of disease, tuberculosis, water-supply, rural sanitation, the medical inspection of schools, and the teaching of hygiene. On the 24th certain phases of plague infection will be discussed by Captain J. C. G. Kunhardt, Colonel S. Browning Smith, Major W. Glen Liston, and Captain Taylor, and vital statistics by Dr. Bentley and Captain T. C. McC. Young. On the 26th notes will be read on the bacteriology of water by Dr. Hirst, and on the filtration of water by Mr. Hutton and Captain J. Morison. On the 27th the resolutions of the conference will be considered and passed.

Women's Medical Service for India.

The following *communiqué* has been issued by the office of the Central Committee, Countess of Dufferin's Fund:—

Women's Medical Service for India.—The lady doctors whose names have been recently published as having been selected for the Women's Medical Service for India have been chosen by the lady President, Her Excellency Lady Hardinge, and the Central Committee of the Dufferin Fund, either on account of their previous good services under the Dufferin Fund, or of their special qualifications and testimonials. This women service is fixed at a maximum of 25 ladies. Of the 24 at present selected, 18 are Europeans or Anglo-Indians and 6 are Indians. Two of these latter, however, have since intimated their inability to join the service.

It will be noticed that it has been found unnecessary at the outset to recruit directly from England for the first appointments to the service, and judging from the number of applications received, and the increasing supply of medical women in India, it seems likely that the appointments will generally be made from among ladies in this country.

Obituary.

THEODORE MAXWELL, B.A., M.D. CANTAB., B.SC. LOND., F.R.C.S. EDIN., D.P.H., F.C.S.

WE regret to record the death early on the morning of Feb. 13th, after a short illness, of Dr. Theodore Maxwell, for many years a valued contributor to the columns of THE LANCET.

Theodore Maxwell was born at Barnsley, Yorks, on March 29th, 1847. His parents were the Rev. Edward Maxwell, M.A., and Mary Hogg Nicholson Maxwell, sister of General John Nicholson, who was killed at Delhi in 1857. He received his early education at Felstead School and privately at Enfield and Blackheath. He then entered at University College, London, where he took the gold medal for chemistry. In October, 1866, he went to King's College, Cambridge, and whilst in residence there he obtained the B.Sc. degree of the University of London. In 1870 he graduated B.A. with honours in the Natural Science tripos at Cambridge, and took the M.B. degree two years later, proceeding to the doctorate in 1876. In 1873 he obtained the Fellowship of the Royal College of Surgeons of Edinburgh.

During the Franco-Prussian war Maxwell joined the Belgian ambulance detachment and was in Sedan the day after the battle. He and a fellow medical student escorted a French lady to her home in Orleans during the war, and he wrote a series of letters which was printed in various papers.

During 1873 he was attached to the Edinburgh Medical Mission until September, when he married Elizabeth Eyre Ashby, daughter of the late Dr. J. E. Ashby, of Enfield, at whose school he had been as a boy. He and his wife immediately sailed for India. In the following April they went to Kashmir, where he hoped to build a hospital and act as a medical missionary. The Maharajah of Kashmir gave him a piece of land for the hospital in the town of Srinagar, and Dr. Maxwell performed a large number of eye and other operations in Srinagar. But in the autumn of 1875 his health broke down, and he was ordered to England and forbidden to return. For three years he practised at Hanwell. In 1879 he and Mrs. Maxwell went to Vienna, where he studied special subjects at the Kinia Hospital under Professor Schröter and others. He then returned to England and began practice in Woolwich, where he at once identified himself with many sides of public life. He worked hard at creating an interest in missions in Woolwich, and established and was president of the Woolwich, Charlton, and Plumstead Missionary Association. He became lay reader for the diocese, and attended the ruridecanal meetings. He was a constant attendant at St. John's Church, Woolwich, to which he gave an organ. After his retirement from practice in 1908 he took up amateur typography, and devoted himself to printing Scripture texts, &c., in Hebrew, Servian, Bulgarian, and other languages. His enthusiasm may be judged from the fact that he sent out over 10,000 Christmas cards with texts for distribution amongst the troops engaged in the Balkan war.

Dr. Maxwell will be remembered by all who came in touch with him as a man of singularly high character—zealous, learned, and industrious. His chief literary work was typical of his mind and disposition. This was the "Terminologia Medica Polyglotta: a Concise International Dictionary of Medical Terms," published in 1890, which set out by an ingenious device the medical synonyms of seven European languages within a compass of 460 pages.

EDWARD SKINNER, M.R.C.S. ENG., L.R.C.P. EDIN., L.S.A.,

LECTURER ON OSTEOLOGY IN THE UNIVERSITY OF SHEFFIELD.

IN the death of Mr. Edward Skinner, on Feb. 11th, the medical profession of Sheffield loses a familiar figure and a respected colleague. His family has for many years been associated locally with things medical, his father and elder brother, both of whom predeceased him, having been medical men. For over 40 years Mr. Skinner was actively engaged in a large general practice, but in spite of the heavy calls which this involved he took a deep and practical interest in the School of Medicine at a time when such help was sorely needed. It was in the "seventies" that he became lecturer on anatomy, a post which his father had held before him, and from then up to 1897, when with the foundation of the University College a chair of anatomy was formed, he rendered invaluable services. He also held the Government licence for practical anatomy, involving a great deal of responsible and often anxious work in connexion with the obtaining of subjects for dissection. From then onwards, until shortly before his death, he continued his active connexion with the anatomical department of University College, and later of the University, as lecturer on osteology. Nor was his interest in the Medical School confined to teaching; he was a regular attendant at all meetings connected with the management of its affairs. Of a peculiarly unselfish, contented, and gentle disposition, he will be greatly missed by a large circle of patients and personal friends, and many of the poorer classes lose in him one who performed many charitable acts in the course of his daily work. Owing to failing health he was compelled to retire from practice for a few years before his death. He leaves three sons, one of whom, Dr. E. F. Skinner, is dermatologist to the Royal Hospital, Sheffield, whilst another, Mr. W. F. Skinner, succeeds his father and his grandfather in the medical practice.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At an ordinary meeting of the society at 11, Chandos-street, Cavendish-square, London, W., this evening (Friday), at 8.30 P.M., a paper on Recent Research relating to Mediterranean Fever will be read by Fleet-Surgeon P. W. Bassett-Smith, who will also show specimens illustrating Barton's bodies and the other blood changes in Oroya fever.

ROYAL MATERNITY CHARITY OF LONDON.—The report of this charity for the year 1913 shows that of 855 cases delivered there was only one death. The number of infants born was 879, which includes 24 twin cases. Of infant deaths there were 12, and stillbirths 29. The ages of the mothers ranged from 18 to 48. The number of cases attended shows a reduction as compared with previous years, which the report points out is directly attributable to the National Insurance Act, though it is gratifying to note that the lesser number attended consisted of more deserving cases—viz., those left outside the maternity benefits accorded to those in employment. "This is one of the anomalies of the Act, that those *in* employment, with stamped cards, receive the maternity benefit of 30*s*., whilst those *out* of employment, casual labourers' wives, street hawkers, and such like, get no aid from the State, and still have to look to this and similar institutions to help them through their time of trouble." The balance sheet indicates that there is a sum of £4429 due to the bank. The address of the society is 31, Finsbury-square, London, E.C.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF INCIPIENT AND UNCONFIRMED INSANITY.

To the Editor of THE LANCET.

SIR,—In your leading article on this subject in THE LANCET of Feb. 7th I fear that you have unintentionally misinterpreted the position taken up by Dr. Hubert Bond. I did not understand Dr. Bond to express antagonism to the proposed change, but only to point out the difficulties in carrying out the proposed treatment arising from the existing state of the law.

The clauses providing for treatment without certificates, introduced by the late Lord Chancellor in his Lunacy Bills (1900 *et seq.*), had certainly been submitted to and received the approval of the Lunacy Commission, and that favourable view of the subject I feel sure has not varied during the past ten years.

The Commissioners from their official position cannot themselves enter into a discussion of this kind, and I trust, therefore, that you will kindly allow me this small space to point out a misapprehension which I am assured that you, Sir, would be the first to wish to remove.

I am, Sir, yours faithfully,

Feb. 16th, 1914. HENRY RAYNER.

*** Our leading article said that Dr. Hubert Bond declined to accept the proposition that modification of the law was desirable or that an immediate alteration upon the lines proposed was an essential condition of reform. Our attention has been called to the following passage in Dr. Bond's paper, which sufficiently shows that we were in error as to Dr. Bond's views:—

> It therefore becomes our duty, as practical men and women, to collaborate with the object of ascertaining how far we may seek to remove those legal formalities which, in the eyes of relatives of patients, rightly or wrongly, spell publicity and stigma, but without endangering the real interests of the patients or public safety: ..... Nevertheless, I am strongly of opinion that, if we are ever to secure promptness in treatment and an abolition of methods we all deplore, legislation is both desirable and necessary, as well with a view to the removal of some of the obnoxious formalities as in deference to the sentiments of relatives and those of the patients themselves.

We publish Dr. Rayner's letter and this acknowledgment of our misconception with pleasure.—ED. L.

THE DEPENDENCE OF LEPROSY ON FISH EATING.

To the Editor of THE LANCET.

SIR,—In an annotation contained in THE LANCET of Dec. 13th, 1913, with the above title, reference is made to the transmission experiments carried out by Couret on cold-blooded animals, the accuracy of which it is stated has been confirmed by Dr. A. J. Smith, Dr. K. M. Lynch, and Dr. D. Rivas. In the account of Couret's experiments published in the *Journal of Experimental Medicine* (vol. xiii., p. 576), the writer states at the outset that his experiments were made with a culture of the bacillus lepræ which had been prepared by Duval, but on p. 582 he describes two experiments with leper tissue carried out on gold fish.

At the Seventeenth International Congress of Medicine in London Duval stated that he had been led into error, and that the cultures which he had previously claimed to be those of the bacillus lepræ were in reality neither cultures nor derivatives of that organism. The methods by which Duval in various publications claimed to have cultivated the bacillus lepræ were employed in this institute, and no cultures of any organisms were obtained for which it might be claimed that they had even a remote genetic relationship with the bacillus lepræ.

Duval, therefore, on his own admission, must have been working with contaminators, and Couret's experiments, other than the two referred to, were not carried out with the bacillus lepræ. As regards the two gold fish fed on teased nodules of leper tissue, and in which he claims to have found "in the omentum and other organs a few scattered acid-fast bacilli," those familiar with the subject will recognise that no value can be attached to such findings.

We are, Sir, yours faithfully,

H. FRASER.
W. FLETCHER.

Institute for Medical Research, Kuala Lumpur, Federated Malay States, Jan. 22nd, 1914.

THE RÔLE OF SYPHILIS IN MENTAL DEFICIENCY AND EPILEPSY.

To the Editor of THE LANCET.

SIR,—In an annotation on the above subject, appearing in your issue of Feb. 14th, you state, in connexion with the application of the Wassermann reaction to cases of mental deficiency, that you believe Dr. K. Frazer and Dr. H. F. Watson to be the first to carry out a general systematic inquiry on this subject in this country.

I would remind you that I carried out a similar investigation on 400 cases under the care of the Metropolitan Asylums Board, the results of which you were good enough to publish in your issue of Sept. 20th, 1913.

I am, Sir, yours faithfully,

J. LESLIE GORDON.

Fountain Temporary Asylum, Tooting, S.W., Feb. 14th, 1914.

*** We much regret the oversight.—ED. L.

JENNERIAN VACCINATION.

To the Editor of THE LANCET.

SIR,—The letter of Dr. W. d'Este Emery in your issue of Feb. 14th concludes with the sentences: "We have a method which is tolerably efficacious in the prevention of small-pox, although our knowledge of the organism which causes that disease is singularly deficient." To know any means of preventing a terrible disease gives us as a profession a natural pride, but this pride is discounted by the admission of ignorance of the exact nature of the material we use to attain this great end. What steps are bacteriologists taking to remove this ignorance of an organism which in its modified form is an article of daily commerce? To prove that I do not undervalue Jennerian vaccination I may mention that some 22 years ago before going to collect material from patients at a small-pox hospital I revaccinated myself. Observations made about that time by others and myself enabled me to conclude that the causal agent of small-pox and vaccinia is a protozoon. It would not be amiss if every one of us set apart, say, one day each month to ask ourselves serious questions about pathology. Among such queries might

well be one as to whether we are sure that the descendants of the tamed parasites of small-pox may not live in some of us and be capable of causing disease many years after they have left their valued little scars.

I am, Sir, yours faithfully,

Portland-place, W., Feb. 14th, 1914. J. JACKSON CLARKE.

THE TUNING-FORK AS AN AID TO DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—When a student in Glasgow my teachers demonstrated its use to the students as an aid in surgical as well as medical cases. This was some 14 years ago, perhaps a little more.

I am, Sir, yours faithfully,

Doncaster, Feb. 16th, 1914. T. L. ASHFORTH.

EXPERIMENTAL SYPHILIS ON MONKEYS.

To the Editor of THE LANCET.

SIR,—I shall be much obliged if either you or some of your readers can enlighten me upon a point connected with the above subject. About 1906 Metchnikoff and Roux inoculated some monkeys with syphilis. Were any of the sores—primary or secondary—examined for the spirochætæ, and was the blood of those animals examined for the Wassermann reaction and with what result?

I am, Sir, yours faithfully,

Liverpool, Feb. 15th, 1914. ROBT. R. RENTOUL.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Asked how it is possible to combine the principle of a whole-time salaried service with free choice of doctor, Mr. Parker says: "I can see no reason why the present system of allotting patients should be discontinued if to-morrow the 20,000 panel doctors became whole-time salaried officers under the State." But surely there is the essential reason that under the present system a man can by refusal to accept patients, or by making himself so inaccessible or disagreeable that few desire to choose him, limit the size of his list almost indefinitely. If he does so, of course he also limits his remuneration, and that is his own affair. But such a privilege could not possibly be accorded to a man with a fixed salary. Whoever offers or pays the salary must see to it that a responsibility commensurate with the salary is accepted and met. It almost seems as if Mr. Parker must be using the words "free choice of doctor" in some different sense from that generally understood by the profession and by those of his colleagues in the State Medical Service Association who are so strongly opposed to the principle. These opponents of "free choice" say that it "makes the doctor conformable to the wishes of the patient" or "places the doctor under the control of the patient," or "makes the doctor regard the interests of his patient and disregard the pecuniary interest of his Approved Society." Many of us think that in the interest of the health of the nation all these conditions are preferable to those which would obtain under a whole-time salaried service. But we cannot understand how it is that at the same time some members of his association are calling out for a whole-time salaried service in order to save us from what they regard as these dangers of free choice of doctor, whilst Mr. Parker himself is asserting that all the advantages of "free choice," such as they are, can be secured in connexion with a whole-time salaried service. One or the other must surely be wrong. I cannot help thinking it is Mr. Parker, and would ask him to reconsider his position and endeavour, since he sees no serious dangers in free choice, to persuade his association to build their national service on the basis of a panel system with free choice of doctor. The foundations are already laid. No uprooting process is necessary. The profession need not be divided into doctors of the rich and doctors of the poor. The fair visions that Mr. Parker has seen of the linking up of hospital work and general practice, and the extension of medical aid to every individual who needs it, might thus possibly become realities whilst some of us are still alive. Before the task of transforming the medical profession into a salaried branch of the Civil Service the boldest reformer might hesitate.—I am, Sir, yours faithfully,

Harley-street, W., Feb. 15th, 1914. LAURISTON E. SHAW.

To the Editor of THE LANCET.

SIR,—If Mr. Parker imagines he has solved the problem of "free choice of doctor" as applied to a State Medical Service, few of your readers will share his opinion. To many it will appear that he does not himself see the difficulties to be encountered. Suppose "20,000 panel doctors became whole-time salaried officers under the State. At first there would be discrepancies with regard to the number on each doctor's list, but things would soon adjust themselves to the altered circumstances." Are all these 20,000 panel doctors in his proposed State service to be paid uniform salaries, as is usual in a Government service, or are their salaries to be according to the number of panel patients they each bring with them? Then as "things adjust themselves to the altered circumstances," is the State to make a revision of the salary each year, in the hope that when the adjustment is finally reached a uniform salary may be possible? Mr. Parker may consider such a service "analogous" to a State service, but it might also be described as the present panel system under State protection, and it might possess considerable advantages for some practitioners not possessed by a real State service. A panel doctor entering the Government service under such conditions might naturally expect that his salary should not be less than he already has from his panel patients. He would also be entitled to fair compensation for other professional emoluments he was required to resign. This might be good business for a few practitioners with a large panel, who might be enabled to draw the same salary without half the worries and anxieties which belong to them at the present time. But it is only a minority that have large panel practices, and the great majority would have to exist on an exceedingly moderate salary "while things were adjusting themselves," looking out for the crumbs that fell from the tables of their more fortunate brethren—i.e., the number over 3000—that might be compelled to select one of them. Perhaps it is wrong to say "compelled," for these patients, Mr. Parker says, have really as much "free choice" as they have at present, and the "free choice" is only taken away from the doctor, who might be willing to attend more than 3000. He is in error as

to Poor-law patients lacking "free choice" at the present time. They already possess a "free choice" analogous to this. There are not a few instances that might be given of Poor-law patients moving into another district in order to get the services of the doctor of that particular district, a procedure which does not involve much difficulty to patients of that class. Like reformers of his kind, Mr. Parker has not the slightest regard for vested interests. He does not consider in the least the present purchase value of medical practices, as ordinary business enterprises. Any such change as he suggests would, no doubt, reduce these values to zero, and possibly for that reason he may think that their possessors are not entitled to compensation, but he will hardly persuade the latter of the equity of such a course.

In conclusion, he draws a highly coloured picture of the result to be obtained at the end of the journey, but the road thereto still remains as obscure as ever, the rivers to be crossed as unfordable, the mountains as impassable. The aeroplane by means of which he proposes to soar over all these difficulties is one such as, in my opinion, no Government that has any regard for its well-being is likely to trust itself to.

I am, Sir, yours faithfully,

Hackney-road, N.E., Feb. 14th, 1914. MAJOR GREENWOOD.

MOSQUITO NETS.

To the Editor of THE LANCET.

SIR,—I notice that in your review on the Health of the Army in 1912 in THE LANCET of Feb. 14th you draw attention to the refusal of the Government of India to provide anti-mosquito nets for the protection of the British soldier against malaria. You deplore their policy, and say "it is extremely regrettable that such an obscurantist and short-sighted attitude should be adopted by the Indian Government."

I desire to point out that there is some excuse for the Indian Government's attitude so strongly criticised by you. I have served for the last five years in a well-known malarious station in the Punjab and have doctored Thomas Atkins through five corresponding malarial seasons. The latter are, throughout the Punjab, chiefly confined to the damp, hot, muggy weather of the rains, roughly July to October. During this period evaporation from the surface of the body is almost *nil*. The men lie naked on their beds at night with towels about their waists and depend for their sleep on the small current of air caused by a gently flapping punkha; the draught from the latter can be increased by lowering it or attaching towels so as to bring the flapping edge as close to the body as possible. The legs and arms of the sleeper are usually outstretched beyond the radius of the breeze, and therefore are the parts chiefly attacked by the mosquito. Should the punkha stop, the feeling of suffocation and intense heat soon awakens the man below. In place of the palliative punkha it is suggested that the soldier be offered a coarse-meshed mosquito curtain through which no air short of a hurricane can penetrate and over which the punkha cannot be pulled.

Inside a curtain on an ordinary hot night the occupant drips with perspiration and kicks, sleepless, from side to side, craving for slumber but finding only increasing prickly heat and suffocation. The only possible way a curtain can be tolerated is out in the open air or in the outside verandah of the barrack-room; even that is but little better—the heavy damp air clogging up the interstices completely prevents all entrance of air and at the same time drips through from above. Is it to be wondered that the men finally throw aside the whole erection and chance malaria. I personally was fortunate in the possession of an expensive, well-made, and fine-meshed mosquito curtain, supplemented by a Jost revolving air fan, yet often the feeling of intense suffocation has come over me, causing me to lift my curtains, knowing the risks, but taking them gladly.

Taking into consideration the doubtful success of such an experiment as the wholesale provision of mosquito nets for the troops, owing to the personal factor, I do not consider the Indian Government would be justified in undertaking the huge outlay and recurring charge involved. The cost of each mosquito curtain is about half a guinea and its life in the barrack room at the most one season. Fortunately, a possible remedy is coming more and more within the bounds of practical application. I refer to the substitution of large electric fans for the present unsatisfactory punkhas; these will not only cool the air but also keep away all mosquitoes by their draught, and when introduced into barrack rooms will solve one of the greatest problems in the prevention of malaria.

I am, Sir, yours faithfully,

Feb. 17th, 1914. W. E. C. L.

THE NATIONAL INSURANCE ACT.

"OWN ARRANGEMENTS."

WE published last week the memorandum issued by the National Insurance Commissioners (England) dealing with the private arrangements which can be made by insured persons in respect of medical benefit. It is, of course, especially with regard to the possibility that an Insurance Committee may give permission to insured persons to make arrangements with people possessing no medical qualification that the memorandum will be scrutinised, and our readers may be informed that the whole matter has been, and still is, under the careful consideration of the General Medical Council. It has long been known that the National Insurance Act did give opportunity for insured persons to avail themselves of the services of individuals purporting to give medical benefit but devoid of medical qualification. The position, though so serious, has alleviating features. It was felt that Approved Societies would be very unwilling to pay away their funds in return for "medical" benefit given by persons who were not medical men, and this has proved to be the case. The general belief has been verified also that Insurance Committees would require evidence of the administration of medical treatment in accordance with the whole spirit of the Act—i.e., treatment rendered by qualified medical men. The example of the Worcester City Insurance Committee in sanctioning the treatment of insured persons by a herbalist[1] is not likely to be followed. Nor is that committee, in view of the revelations which took place at a recent inquest (see p. 561), likely to be embarrassed by many further requests from insured persons anxious to make private arrangements with Mr. Burden, the

[1] THE LANCET, Nov. 8th, 1913, p. 1359.

herbalist of Bridge-street, Worcester. Moreover, the new memorandum makes it clear that the Exchequer grant will not be available for persons making private arrangements with herbalists, as the domiciliary treatment for tuberculosis requires for its administration a certificate from a registered medical practitioner.

APPROVED SANATORIA UNDER THE ACT.

THE Local Government Board have issued for official use a list of sanatoria approved by them under the National Insurance Act for England and Wales.[1] The list has been revised up to Jan. 31st last, and contains the names of the administrative councils and council boroughs in which the sanatoria are situate, and the date on which the Board's approval expires in each case. In England 215 institutions have been approved, and in Wales and Monmouth 11, while 95 military hospitals in England and Wales have been approved temporarily under the National Insurance Act for a period expiring on July 15th, 1914. In addition, three institutions in Scotland have been approved for the reception of insured persons resident in England or Wales.

THE STATE MEDICAL SERVICE QUESTION.

Those in favour of a State Medical Service appear to be not altogether unanimous upon a point of practical importance, and one at any rate of considerable interest to medical men now in practice upon the panels. Sir John Collie, in his recent exposition of his views in favour of the establishment of such a service, spoke as if it was rendered desirable by the fact that any medical practitioner can place himself on a panel, and as if the first step in the institution of a Medical Service would be the weeding-out of many who now practise among the insured. Other writers on the same side treat the enrolment of all the members of panels as the first step in constituting a service, and the possibility of forming a nucleus in this manner is assumed by Mr. C. A. Parker in a letter in THE LANCET of Feb. 14th, p. 500. These two conceptions of a possible State service are inconsistent, and those who advocate its institution should say definitely whether in their opinion its members should consist of medical men specially selected in competition with one another, or whether its ranks should be open to all now qualified to practise. With regard to another point, those who argue that the freedom of choice of insured patients is already so limited that it might without any great loss to anyone be done away with altogether, seem to forget that one of the arguments used against the panel system is the congested state of some panel doctors' lists. Apart from London districts, where this is due to lack of competition, such congestion must surely be proof of the exercise of free choice and of the value attached to it by insured patients.

INSURANCE BENEFITS BY POST.

The Inter-departmental Committee appointed to consider proposals for the payment of benefits under the National Insurance Act by post have recommended the introduction of a special money order, payable on presentation at any post-office within a period of one month and available for the payment of sickness, maternity, and disablement benefits. These orders should be for fixed amounts, a form being provided capable of being filled up in writing to meet the case of broken periods and of reduced benefits. A form of procedure is recommended for the issue of books of the orders to societies, and precautions are suggested which would be necessary owing to the ease with which such orders would be convertible into cash. It is recommended that a charge should be made to the societies such as would cover the cost of producing the orders, and the extension of the use of such orders to other organisations than Approved Societies paying benefits under the Insurance Act is foreshadowed.

[1] To be obtained from Wyman and Sons, Limited, 29, Bream's-buildings, Fetter-lane, E.C., price 1d.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred:—

M.D.—F. W. W. Griffin, King's; and J. P. Hill, Caius.
M.C.—S. H. Roquette, King's.
M.B., B.C.—W. D. Ross, King's; W. B. Gourlay, Trinity; J. W. Tonks, Caius; and H. A. Douglas, Selwyn.
B.C.—R. W. Ironside, Pembroke; and J. P. Hill, Caius.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—In THE LANCET of last week reference was made to the forthcoming Milroy Lectures to be delivered at the College on Feb. 24th and 26th and March 3rd and 5th. The Goulstonian Lectures will be delivered by Dr. M. A. Cassidy on March 10th, 12th, and 17th on Rheumatoid Arthritis. The Lumleian Lectures will be delivered by Dr. J. A. Ormerod on March 19th, 24th, and 26th on some Modern Theories Concerning Hysteria. The Oliver-Sharpey Lectures will be delivered by Dr. F. G. Hopkins on March 31st and April 2nd on Some Effects which follow Disturbances in the Chemical Reaction of the Blood. All these lectures will be given at 5 o'clock in the College, Pall Mall East.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—An ordinary meeting of the Council was held on Feb. 12th, Sir Rickman Godlee, the President, being in the chair. Professor Vladimir Andrejevic Oppel was introduced; he signed the roll of Honorary Fellows and was presented with the diploma of Honorary Fellowship. Professor Oppel is professor of surgery at the Imperial Academy of Medicine, St. Petersburg. It was resolved to issue diplomas of Membership to 97 successful candidates. In accordance with a report from the secretary of the Conjoint Examining Board, it was resolved to grant Diplomas in Public Health jointly with the Royal College of Physicians of London to 23 successful candidates, including four ladies. The President reported that in pursuance of the provisions of the Bradshaw request he had chosen Sir Frederic Eve as Bradshaw lecturer for the ensuing collegiate year.—The undermentioned diplomas have been conferred on the following gentlemen, who have now complied with the by-laws of the College:—

F.R.C.S.—Julian Taylor, M.B., B.S. Lond., L.R.C.P., M.R.C.S., University College Hospital.
L.D.S.—James Douglas Dimock, Middlesex and Royal Dental Hospitals.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of Comitia of the Royal College of Physicians on Jan. 29th, and of the Council of the Royal College of Surgeons on Feb. 12th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred by each College on the following 97 candidates, who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Examining Board:—

Alan Douglas Anderson, University College Hospital; Edgar Bernard Argles, St. Mary's Hospital; Harry Arnold Ash, Cambridge University and London Hospital; George Aspinall-Stivala, St. Bartholomew's Hospital; Claude Hamilton Blair Avarne, London Hospital; Edwin Randolph Bailey, L.D.S. Eng., Guy's Hospital; Alaric Charles Ballance, B.A. Oxon., Oxford University and St. Thomas's Hospital; Framroz Dossabhoy Bana, M.B., B.S. Bombay, D.P.H. Oxon., D.T.M. & H. Cantab., Bombay University and London Hospital; Frank Montague Barnes, St. Thomas's Hospital; William Claude Percy Barrett, and Maurice Holdsworth Barton, University College Hospital; Frank Percy Bennett, St. Mary's Hospital; Alberto Henrique Ferreira Bizarro,

M.D. Lisbon, Lisbon University and University College Hospital; Philip Rutherford Boswell, B.A. Cantab., Cambridge University and Guy's Hospital; Ambroise Bouchage, M.D. Paris, University of Paris; Frederick Charles Sedgwick Broome, Guy's Hospital; Duncan Angus Carmichael, M.D. Kingston, Kingston University and London Hospital; Hari Chand, L.M. & S., Punjab University and Charing Cross Hospital; Seemampillai Francis Chellappah, L.M. & S. Ceylon, Ceylon Medical College and London Hospital; Trimbak Lakshman Chiplonkar, Bombay University and Middlesex Hospital; Edwin Lionel Christoffelsz, Ceylon Medical College and London Hospital; William Hern Cornelius, L.D.S. Eng., Middlesex Hospital; Frederick Hugh Lester Cunningham, St. Bartholomew's Hospital; John Christopher Davies, B.A. Oxon., Oxford University and St. Thomas's Hospital; Lionel Richard Gethin de Glanville, Liverpool University and London Hospital; Ralph Marsh de Mowbray, St. Thomas's Hospital; Carl Keating Graeme Dick, St. Mary's Hospital; Kashinath Jaideo Dikshit, L.M. & S. Bombay, Bombay University and London Hospital; Richard Henry Dix, Durham University; Paul Dvorkovitz, St. Bartholomew's Hospital; Gordon Doulton East, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Mohammed El Bakry, St. Thomas's Hospital; Roger Errington, M.B., B.S. Durh., Durham University; Alma Percy Ford, London Hospital; Alfred Noel Garrod, B.A. Cantab., and Norman Gray, Cambridge University and St. Bartholomew's Hospital; Francis Henry Guppy, St. Bartholomew's Hospital; Howell Gwynne-Jones, London Hospital; William Reginald Huleatt Heddy, Middlesex Hospital; David Alexander Henderson, M.B. Toronto, Toronto University and Middlesex Hospital; Charles Lyon Herklots, B.A. Oxon., Oxford University and University College Hospital; Edward Sancton Walls Hirsch, St. Mary's Hospital; Gordon Alexander Hodgson, Leeds University; Theo Jenner Hooper Hoskin, B.A. Cantab., Cambridge University and Middlesex Hospital; Nilkauth Shriram Jatar, Bombay University and University College Hospital; David William Jones, Guy's Hospital; Griffith Lewis Jones, Cardiff and Middlesex Hospital; Thomas Arthur Jones, B.A. Cantab., Cambridge University and London Hospital; Mahomed Moosa Khan, Bombay University and London Hospital; Joseph Georges L'Etang, St. Bartholomew's Hospital; George Howard Stretteil Letchworth, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert John McNeill Love, London Hospital; Norman Peace Lacy Lumb, St. Thomas's Hospital; Ronald Guy Lyster, St. Bartholomew's Hospital; Kenneth Holl McMillan, St. Thomas's Hospital; David Gair McRae, London Hospital; Jean Edouard Margnat, M.D. Paris, University of Paris and St. Mary's Hospital; Frank Douglas Marsh, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Edward Hillis Marshall, King's College and St. Thomas's Hospital; William Henry Marshall, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Joseph Henry Mather, B.Sc. Liverpool, Liverpool University; Ronald Kelburne Merson, Cambridge University and London Hospital; George Christopher Metcalfe, B.A. Cantab., Cambridge University and University College Hospital; Lionel Everard Napier, St. Bartholomew's Hospital; Harold Gordon Oliver, Cambridge University and London Hospital; Walter Justice Paramore, University College Hospital; Charles Franklin Pedley, Cambridge University and Guy's Hospital; Richard Amyas Preston, and Julian Lionel Priston, London Hospital; George Brentnall Pritchard, L.D.S. Eng., and William Reginald Pryn, Guy's Hospital; Herbert Jack Rawson, St. Thomas's Hospital; Stanley Alfred Riddett, L.D.S. Eng., Middlesex Hospital and Leeds University; Granville Douglas Robertson, St. Mary's Hospital; Paul Hans Carl Constantin Schmidt, M.D. Freiburg, Freiburg University; Arthur Geoffrey Shera, B.A. Cantab., Cambridge University and University College Hospital; Cyril Sherris, Guy's Hospital; Ronald Silcock, St. Mary's Hospital; Francis Gerald Augustus Smyth, St. Bartholomew's Hospital; Trevor Richard Snelling, London Hospital; Arthur Hughes Southam, B.A., M.B., B.Ch. Oxon., Oxford and Manchester Universities; Mackenzie Thwaites Wills Steedman, B.A. Cantab., and Clement Kirwan Sylvester, St. Bartholomew's Hospital; Joseph Bulmer Thackeray, London Hospital; Mom Chow Thavara, Guy's Hospital; Frederick Tooth, Sydney University and Guy's Hospital; Harold Topham, Leeds University and London Hospital; Thomas Reginald Trounce, L.D.S. Eng., Guy's Hospital; Donald Sargenson Twigg, Sheffield University; Jagannath Balkrishna Vaidya, L.M. & S. Bombay, Bombay University and University College Hospital; Rupert Edward Shawe Waddington, St. Bartholomew's Hospital; George Harvey Duder Webb, University College Hospital; Felix Evan Weerasooria, L.M. & S. Ceylon, Ceylon Medical College and University College Hospital; James Renfrew White, M.B., B.S. New Zealand, New Zealand University; Syer Barrington White, B.A., M.B., B.Ch. Oxon., Oxford University and Westminster Hospital; Lancelot Craven Wilkinson, St. Bartholomew's Hospital; and John Francis Wilcox Wyer, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital.

Diplomas in Public Health were also conferred upon the following (in conjunction with the Royal College of Surgeons), including four ladies:—

Charles Nelson Atlee, L.R.C.P., M.R.C.S., St. Mary's Hospital and King's College; Whiteford John Edward Bell (Captain R.A.M.C.), M.B., Ch.B. Edin., Edinburgh University and Royal Army Medical College; Rose Lilian Humphrey Davy, M.B., B.S. Lond., L.S.A., Royal Free and University College; Cuthbert Lindsay Dunn (Captain I.M.S.), L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Edinburgh; Irene Davy Eaton, M.B., B.S. Lond., Royal Free and University College; Maud Tresillian Féré, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Edinburgh and University College; Arthur Brownfield Fry (Major I.M.S.), M.D. Lond., L.R.C.P., M.R.C.S., London Hospital and Royal Army Medical College; Colin James Galbraith, M.B., B.S. Lond., L.R.C.P., M.R.C.S., King's College; Maharaj Krishna Kapur, L.M. & S. Punjab, Punjab University and University College; Nariman Bejanji Kolsavala, L.M. & S. Bombay, Bombay University and University College; Nelson Low (Captain R.A.M.C.), L.R.C.P., M.R.C.S., St. Mary's Hospital and Royal Army Medical College; Donald McIntyre, M.B., Ch.B. Glasg., Glasgow University and University College; Marjorie Eva Middleton, M.B., B.S. Lond., Royal Free and University College; Alan Hilary Moore, M.B., B.C. Cantab., Cambridge University and St. Bartholomew's Hospital; Clayton Conyers Morrell, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Edinburgh and King's College; Walter Woodall Pratt, M.B., B.S. Lond., L.R.C.P., M.R.C.S., Bristol University and Royal Army Medical College; Keshava Narayana Rau, M.B., C.M. Madras, Madras University and University College; Reginald Oliver Sibley, M.D. Lond., L.R.C.P., M.R.C.S., St. Mary's Hospital and King's College; Charles Lindsay Sutherland, M.B., Ch.B. Glasg., Glasgow University and University College; James Massimo Todesco, L.R.C.P., M.R.C.S., University College; Frederic Ernest Wilson (Captain, I.M.S.), M.B., Ch.B. Edin., Edinburgh University and Royal Army Medical College; John Hutchinson Wood, M.B., B.S. Durh., L.R.C.P., M.R.C.S., Durham University and St. Bartholomew's Hospital; and Jamsetji Hormusji Writer, L.M. & S. Bombay, Bombay University, Royal Institute of Public Health, and University College.

UNIVERSITY OF LONDON.—The lecture on the Action of Radium upon Animal Cells, which was to have been given by Dr. H. Beckton at Middlesex Hospital on Wednesday, March 4th, will be given instead on Friday, March 6th, at 5 P.M.—Three lectures of the course of eight lectures at Guy's Hospital on the Physiological Effects of Anæsthetics and Narcotics, by Dr. M. S. Pembrey and Mr. J. H. Ryffel, remain to be delivered—viz., on Feb. 26th, March 5th, and March 12th at 4 P.M.—Dr. A. J. Clark has been added to the Board of Intermediate Medical Studies, and Dr. Frederick Taylor has been elected chairman of the Committee of Medical Members of the Senate for the remainder of the year 1913–14.—The following appointments have been made: Dr. W. F. Corfield to be Governor of the Colchester Royal Grammar School, and Professor H. R. Kenwood to be Representative of the University (also in respect of University College) at the Twenty-ninth Congress of the Royal Sanitary Institute to be held at Blackpool in July next. University medals in connexion with the M.D. Examination for Internal and External Students, December, 1913, have been awarded as follows: Branch I. (Medicine) to Mr. Geoffrey Hadfield (St. Bartholomew's Hospital); Branch IV. (Midwifery and Diseases of Women) to Mr. Arthur Arbuthnot Straton (St. Mary's Hospital); Branch VI. (Tropical Medicine) to Captain Robert Kelsall (Victoria University of Manchester and London School of Tropical Medicine).

THE FIRST GALTON LECTURE.—Major Leonard Darwin, President of the Eugenics Education Society, presided on Feb. 16th at the celebration of the anniversary of the birth of Francis Galton. He said that they desired an outward expression of their belief that posterity would owe a great debt to the man who first made it possible to start a campaign in favour of racial advancement. Sir Francis Darwin, the lecturer, in referring to the Galton lecture and its objects, began by showing that the subject of his discourse was no enemy to a simple form of ceremonial. Certain characteristics of Sir Francis Galton's mind were then considered, leading finally to his devotion to experiment. A striking feature was his love of method. He liked to know the right way of doing all things, and he was as original in every-day matters as he was in scientific investigations. He liked also to teach his methods to others. After making a name as a traveller and meteorologist, he gradually settled into the line of work by which he will always be remembered—the study of heredity leading up to his work in eugenics. He was profoundly impressed by reading "The Origin of Species" in 1859, and it was this that led him to take up with fresh energy inquiries into heredity which had long interested him. His first publication on evolution was in 1865, when he wrote two remarkable articles in *Macmillan's Magazine*, in which were the germs of nearly all his future work. The first book to develop from the "embryonic" stage was "Hereditary Genius," which to many readers seemed his greatest work. Galton was also celebrated for his application of statistical methods to the general problem of inheritance, a profound study which led him to formulate what was known as the ancestral law. But to future ages he would be pre-eminently remembered as the founder of the beneficent science of eugenics. Though he had written on eugenics in 1865, and though he cared for the subject with an almost passionate zeal, yet the biological writings ending in eugenics formed a procession of nearly 40 years in extent. In this he showed his practical wisdom and his scientific restraint. By his munificent eugenic foundation at University College he finally proved to the world the value he set on this science. The Eugenics Education Society was justly proud of the fact that Francis Galton was their first honorary president, since in accepting

that office he made public his approval of the objects for which the society was founded.

ASSOCIATION FOR PROMOTING THE TRAINING AND SUPPLY OF MIDWIVES.—The tenth annual meeting of this association will be held, by permission of Mrs. Charles Ebden, at 16, Draycott-place, Brompton, S.W., on Friday, March 6th, at 3.30 P.M., when the chair will be taken by the Duchess of Montrose. A short address on Midwifery in the Provinces will be delivered by Dr. George Reid, county medical officer for Staffordshire.

ROYAL DEVON AND EXETER HOSPITAL.—Mr. Harry Hems, of Exeter, has given a polished alabaster reredos to the chapel of St. Luke attached to the Royal Devon and Exeter Hospital. Mr. Hems is a member of the committee of the charity, with which he has been connected for about 50 years. The chapel was erected at a cost of £3000 by the late Mr. Arthur Kempe, honorary surgeon to the charity, in 1869.

By the death of Mr. Robert Clay Sudlow, from heart failure following an attack of bronchitis, a well-known figure will be missed from wholesale pharmaceutical commerce. Mr. Sudlow, who died on Feb. 17th, at the age of 63, was for 25 years general manager of Messrs. Burroughs, Wellcome, and Co., resigning about ten years ago owing to failure of health. Mr. Sudlow was well known in Masonic circles.

ELECTRICALLY STERILISED MILK.—The Liverpool corporation is now sterilising by electricity the infants' milk supplied to the public from the various corporation milk depôts in that city. All tuberculous and manurial contamination is said to be removed, as well as danger from zymotic disease. If the taste and chemistry of the milk remain unaltered by this form of sterilisation, as is alleged, it will become necessary for other corporations to look into the matter.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A council meeting was held at 34, Copthall-avenue, E.C., on Feb. 10th, Surgeon-General G. J. H. Evatt, the President, being in the chair. Dr. Major Greenwood, honorary secretary, reported that the Burnley dispute[1] had not yet been settled. The matter had been referred to a committee consisting of representatives of the local profession and of the guardians in equal numbers, with the district inspector of the Local Government Board as chairman, but so far no agreement had been come to. The honorary secretary reported that he had done his utmost at the recent Representative Meeting of the British Medical Association in London to prevent the rescinding of the latter portion of the resolution condemning the surrender of panel fees by Poor-law medical officers passed at the Brighton meeting of the British Medical Association, but had failed, so that that resolution had been considerably watered down. The council expressed much regret that this had been done. A letter from the secretary of the National Poor-law Officers' Association desiring to know whether their association approved of the federation of all sectional Poor-law Officers' Associations was considered. The honorary secretary explained that since the last council meeting a meeting of representatives of all branches of the Poor-law had been held at Norfolk House, Strand, and a resolution had been almost unanimously carried in favour of such federation. After discussion, the principle of federation was unanimously approved by the council, but doubt was expressed as to whether the funds of the association could afford the necessary extra payments. The honorary secretary then read a letter from the Mayor of Burnley inviting the association to hold their annual meeting this year at Burnley, and it was decided that Thursday, July 2nd, should be selected as the day for the meeting. The council then considered the recent Poor-law Institutions' Order, 1913, to come into force on April 1st next, which will no doubt seriously affect many of their indoor members. The addition to their duties was very considerable, and there was no mention in the Order of any extra payment for the extra work. The honorary secretary pointed out that before they could give any effective assistance they must be in possession of the facts of the case. The council decided that it would be advisable to draw up a report on the Order and its effect on the duties of the medical officers of Poor-law institutions. This was left in the hands of the honorary secretary and Dr. C. Thackray Parsons. The honorary secretary drew attention to an error that was widely prevalent among the Poor-law Medical Service that their association was only for outdoor Poor-law medical officers. He thought every effort should be made to dissipate that erroneous impression.

[1] THE LANCET, Nov. 23nd, 1913, p. 1510.

PRESENTATIONS TO A MEDICAL MAN.—At the Wilts County Asylum recently Mr. John Ireland Bowes, M.R.C.S. Eng., L.S.A., who has just resigned the appointment of medical superintendent after nearly 40 years' service, was the recipient of several presentations. The male patients presented him with a silver-mounted walking-stick and the female patients with a silver-mounted briar pipe. The resident staff gave Mr. Bowes a set of solid silver candelabra. The presentations were made by the newly appointed successor to Mr. Bowes, Dr. S. J. Cole, who was formerly senior assistant medical officer of the institution for about nine years.

DONATIONS AND BEQUESTS.—The late Major G. H. Brand left by will £1000 to St. Mary's Hospital for a "Major Brand bed."—Subject to his wife's life interest the late Mr. George Day, of St. Michael, Somerset, has left the income of a house and farm of about 117 acres upon trust for Taunton Hospital.—The late Mr. R. E. Watmore has, among other bequests, left £500 each to the following institutions: Friedenheim Hospital for the Dying, Brompton Hospital, British Home and Hospital for Incurables at Streatham, and the Royal Association in Aid of the Deaf and Dumb.—By the will of the late Mr. Alexander Allan, of Aberdeen, there were left, among other bequests, £10,000 to the Aberdeen Royal Infirmary, £5000 to the Aberdeen Royal Sick Children's Hospital, £4000 to the Morningfield Hospital, Aberdeen, and £2000 to the Aberdeen Convalescent Hospital. The residue of the estate will also be divided among these and other charities.

BRITISH DENTAL ASSOCIATION: THE SMITH TURNER SCHOLARSHIP IN DENTAL MECHANICS.—This scholarship, of the annual value of £30, is founded to do honour to the memory of James Smith Turner, while helping those dental students who have financial difficulty in completing the dental curriculum. The scholarship is open to any registered dental student who has not completed the curriculum required for a dental qualification, and is awarded after examination, being tenable for one or two years, at the discretion of the Fund Committee. The scholarship money will be paid to a dental or a medical school in Great Britain or Ireland, approved by the committee, in discharge of fees for any portion of the dental curriculum. The examination is both practical and *viva voce*. The next examination will be held during April, 1914, at a dental school and on a date to be announced later. Applications must be received on or before March 15th, addressed to the Secretary, British Dental Association, 19, Hanover-square, London, W. Printed forms for applications will be supplied to candidates.

ROYAL SOCIETY: SORBY RESEARCH FELLOW.—The committee, representing the Royal Society and the University of Sheffield, appointed to administer the Sorby Research Fellowship Fund, will proceed to the election of a Fellow after Easter. The object of the Fellowship is not to train men for original research, but to obtain advances in natural knowledge by enabling men of proved ability to devote themselves to research. The appointment will be for five years, subject to regulations, a copy of which may be obtained on application to the Royal Society. The emoluments of the Fellow will be approximately £500 per annum. The Fellow elected will be expected to pursue his investigations at the University of Sheffield unless the nature of the investigation requires that the work should be done elsewhere; he will be expected to enter upon his duties as soon after election as possible. Applications from candidates for the Fellowship will be received by the secretaries of the Royal Society, at Burlington House, London, W., up to April 20th. Each application should contain a brief statement of the scientific career of the candidate, including his previous work, and a statement, as precise as possible, of the nature of the work to which he proposes to devote himself if elected. Each candidate is

requested to send one reference, but testimonials are not desired.

THE STATE AND THE NATIONAL HEALTH.—We are asked to announce that a public meeting is being arranged by the State Medical Service Association at the Essex Hall, Essex-street, Strand, on or about March 25th to discuss the responsibility of the State for the national health.

DR. W. T. GRENFELL, C.M.G., AND LABRADOR.—Dr. Grenfell, who has done such good work among the fishermen and people of Labrador, is now in England, and will deliver a series of lectures with the object of raising money for his work. The first lecture, illustrated with lantern slides and kinematograph films, entitled "My Life in Labrador," will be given at Queen's Hall on Monday next, Feb. 23rd, when His Excellency the American Ambassador will preside.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

PARLIAMENT was opened by the King in person on Tuesday, Feb. 10th.

Chairmanship of Insurance Joint Commission.

Mr. MASTERMAN, who has been Secretary to the Treasury, has entered the Cabinet as Chancellor of the Duchy of Lancaster. He has discharged the duties of chairman of the National Health Insurance Joint Commission and of the Minister specially charged in the House of Commons with the responsibility for the details of the administration of the National Insurance Act. On matters of larger policy the Chancellor of the Exchequer and the Prime Minister gave expression to the views of the Government, but it has been on Mr. MASTERMAN that the burden devolved of answering the almost daily batch of questions arising out of the working of the Act. In consequence of this experience, his knowledge of the complicated provisions of the statute and the regulations under it has become extremely wide. For this reason the Prime Minister has decided that whilst Mr. MASTERMAN should receive promotion to Cabinet rank he should retain his connexion with the administration of the National Insurance Act as chairman of the Joint Commission—at least for the meantime. The duties of the Chancellorship of the Duchy of Lancaster as compared with many other ministerial offices are light, and have frequently permitted the holder of it to give assistance to other departments of State.

The New President of the Local Government Board.

One of the most interesting changes in the Cabinet is the transfer of Mr. JOHN BURNS to be President of the Board of Trade and the appointment of Mr. HERBERT SAMUEL as President of the Local Government Board in his place. Mr. BURNS has been in charge of the Local Government Board since the present Government accepted office eight years ago. He devoted a great deal of his attention and energies there to the administrative side of the department's work, but he also has piloted several important measures through the House of Commons, notably the Housing and Town Planning Act. Mr. HERBERT SAMUEL comes to the Local Government Board from the Post Office, but before he became Postmaster-General he was Under Secretary at the Home Office. In the latter capacity he won great praise for the manner in which he took charge of the Children Act during its passage through the House of Commons.

Assistants to Pharmacists (Qualification) Bill.

Mr. GLYN-JONES has introduced a Bill in the House of Commons "to provide for the registration and qualification of persons entitled to act as assistants to pharmacists in the compounding of prescriptions of duly qualified medical practitioners." It has been read a first time.

Insured Persons in the United Kingdom.

It is announced that the number of insured persons in the United Kingdom coming within the scope of the National Insurance Act is 9,682,300 men and 4,077,100 women.

Defective and Epileptic Children.

Mr. J. PEASE, the President of the Board of Education, has introduced in the House of Commons a Bill "to amend the law relating to the education of defective and epileptic children in England and Wales." It was read a first time.

HOUSE OF COMMONS.

THURSDAY, FEB. 12TH.

Deposit Contributors under the Insurance Act.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury what proportion of insured persons were now deposit contributors, whether that proportion was increasing, and whether the Insurance Commissioners were seizing every available opportunity to induce deposit contributors to join approved societies.—Mr. WEDGWOOD BENN (in the absence of a Secretary to the Treasury) replied: Less than 3 per cent. of insured persons are now deposit contributors. The proportion has considerably decreased and is still decreasing.

Mr. LOCKER-LAMPSON asked the honourable gentleman whether in view of the fact that the case of deposit contributors must be dealt with by legislation this year, he would take an early opportunity of laying all available facts and figures about them, to the end of the first year of benefit, before the House, so that the subject might be studied and suggestions made by those interested.—Mr. WEDGWOOD BENN answered: Special investigations into the position of deposit contributors are in progress, and my right honourable friend hopes to lay the result before the House at an early date. He will be very glad to receive suggestions in the matter from any honourable Members who are interested.

Insured Persons and Non-Panel Practitioners.

Mr. PETO asked the Secretary to the Treasury what was the amount of the fund on Jan. 1st, 1914, derived from insured persons who had chosen other medical men than those on the panels.—Mr. WEDGWOOD BENN said in reply: If the honourable Member's inquiry relates to insured persons who have continued to be attended by non-panel medical men as private patients without reference to the provisions of the National Insurance Acts, no information is available as to their number and no separate account is or can be kept in respect of them.

Sanatorium Benefit in Kent.

Mr. FRED HALL (Dulwich) asked the Secretary to the Treasury whether his attention had been called to the terms of a circular issued by the Kent Insurance Committee to insured persons to the effect that, owing to the number of patients receiving sanatorium benefit and to the fact that the sum of money available for the purpose was limited, it had become necessary to reduce the quantity of nourishment supplied; whether in the case of a certain contributor the committee had communicated with the tradesman who was under instructions to supply him with certain special foods ordered for him by the doctor cancelling such instructions; and whether arrangements could be made to ensure all tuberculosis patients receiving the medicine and nourishment ordered for them by their medical advisers.—Mr. WEDGWOOD BENN answered: My right honourable friend is informed that no general circular has been issued by the Kent Insurance Committee making any such announcement as that suggested in the honourable Member's question. He understands, however, in the case of individual insured persons who have already been in receipt of the special nourishment for the full period for which such grants of nourishment are ordinarily given, the committee, while continuing the treatment recommended, have in some cases postponed the question of any further grant of special nourishment in consideration of the immediate claims of other applicants, and with the object of securing the employment of the funds at their disposal to the greatest advantage. Such action was taken in the case of the insured person to whom the honourable Member refers, and a letter was addressed to him by the committee's medical adviser notifying him of their decision in the matter. He has, however, continued to receive domiciliary treatment under the supervision of the medical adviser, who recommended in his case the provision of a shelter for open-air treatment, with which he has been supplied. A further grant of special nourishment was in due course considered and allowed, and orders for its supply were issued on Monday, Feb. 9th.

Tuberculosis Benefit.

Mr. SOAMES asked the Secretary to the Treasury how many persons had received treatment for tuberculosis under the National Insurance Act, distinguishing between sanatorium and other treatment.—Mr. WEDGWOOD BENN said in reply: A return containing the particulars asked for is in course of preparation and will be laid before Parliament at an early date.

Bovine Tuberculosis.

Mr. CHARLES BATHURST asked the President of the Board of Agriculture what amounts had been expended out of the Government grant under the Tuberculosis Order, 1913, upon compensation and administration respectively in connexion with the elimination of bovine tuberculosis in England and Wales; how it was proposed to apply the balance of the Exchequer grant of £60,000 per annum; and whether he proposed to take any and, if any, what steps to encourage

stockowners to report to the local authorities cases of bovine tuberculosis existing on their holdings.—Mr. RUNCIMAN wrote in reply: Up to the present £1686 7s. 1d. has been paid by the Board of Agriculture towards the cost of compensation under the Tuberculosis Order of 1913, but there is a large number of accounts not yet received from the local authorities, some dating from the September quarter. The Board are in communication with the Treasury in regard to a revision of the basis of valuation and the scale of compensation prescribed in the Order.

Registration of Nurses.

Dr. CHAPPLE asked the Secretary of State for the Home Department whether his attention had been called to instances of the abuse of nurses' uniforms during the past few months; and whether he would give his support to a Bill for the State registration of nurses in order to meet this and other evils that were leading to the scarcity of nurses in the ranks of the profession.—Mr. MCKENNA replied: During the past few months my attention has not been called to any case of the kind. The police will make inquiry, but so far as they are aware such cases are of very rare occurrence. Recent Bills on the subject of the registration of nurses have not touched on this matter, and there would be serious difficulties in framing any provision of the nature suggested. I cannot make any promise with regard to a Bill.

MONDAY, FEB. 16TH.

Departmental Committee on Excessive Sickness.

Mr. WEDGWOOD BENN (on behalf of the Chancellor for the Duchy of Lancaster) informed Mr. G. LOCKER-LAMPSON that the Departmental Committee on Excessive Sickness under the National Insurance Act was still taking evidence, and his right honourable friend had no knowledge when it would complete its labours.

Milk and Dairies Bill.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether it was proposed to reintroduce the Milk and Dairies Bill this session.—Mr. HERBERT SAMUEL wrote in reply: The matter is engaging my close attention, but I am not yet in a position to make any statement with respect to it.

TUESDAY, FEB. 17TH.

Medical Benefit.

Mr. SNOWDEN asked the Secretary to the Treasury to state, with regard to England, Scotland, and Wales respectively, for the latest dates for which he had the figures, how many doctors were on the panel, how many chemists had contracted to supply medicine, and what was the average cost of drugs and appliances per insured person.—Mr. WEDGWOOD BENN replied: The approximate numbers of medical men on panels in England, Scotland, and Wales respectively are 16,300, 2700, and 1250 respectively, including medical men who are on more than one panel. The numbers of individual chemists who have contracted to supply medicine cannot be given without calling for a special return from all the Insurance Committees in Great Britain. The information asked for in the third part of the question will not be available until a final settlement of accounts has been effected by all Insurance Committees with the chemists on their panels for the past year.

Hospital Accommodation for Metropolitan Police.

Mr. TOUCHE asked the Secretary of State for the Home Department whether his attention had been called to the lack of a hospital or nursing home for members of the Metropolitan Police Force suffering from ordinary ailments where they could receive proper treatment and attention for which no suitable provision was made at police stations or section houses at present; and was the question of better provision when on the sick list under consideration.—Mr. MCKENNA answered: A central police hospital or nursing home for the Metropolitan Police would not be as satisfactory as the existing arrangement, under which members of the force who need hospital treatment are admitted to a hospital near to their homes, where they can be visited conveniently and without much expense by their families and friends. When the illness does not require hospital treatment, the men are attended at their own homes by the divisional surgeons. Suitable sick rooms are provided for single men at police stations and section houses, where they are treated by the divisional surgeons unless hospital treatment is necessary. The single men form only one-fourth, and the proportion of sickness among them is very small.

WEDNESDAY, FEB. 18TH.

Panel Chemists.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether he was aware that panel chemists in several districts, particularly in Manchester, Salford, and Scotland, were dissatisfied with their position and prospects of full payment of their accounts under the National Insurance Act; and if so, what the Government proposed to do to avoid the danger of insufficiency or inferiority of medicines supplied to the public.—Mr. WEDGWOOD BENN (who replied) said: My right honourable friend is not aware of any such general dissatisfaction in Scotland. The chemists on the panel in Manchester and Salford expressed dissatisfaction at the arrangements in force in those areas during 1913, but it is understood that they have renewed their agreements for the current year under special arrangements for their protection against extravagant prescribing. In reply to the second part of the question the regulations and agreements which doctors and chemists have entered into provide ample safeguards both as regards the quality and the sufficiency of the supply of medicines.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Mental Deficiency (Amentia). By A. F. Tredgold, L.R.C.P. Lond., M.R.C.S. Eng., Consulting Physician to the National Association for the Feeble-Minded, and to the Littleton Home for Defective Children. Second edition, revised and enlarged. Price 12s. 6d. net.

Lectures on Medical Diseases for Nurses. By David Forsyth, M.D., D.Sc. Lond., F.R.C.P. Lond., Physician to Out-patients, Charing Cross Hospital. Price 3s. 6d. net.

BRYCE, WILLIAM, 54, Lothian-street, Edinburgh.

Notes on Midwifery. Specially for Midwives. By C. F. Lasalle, M.D., C.M. Edin., D.P.H. Oxon., Government Medical Officer, Port Health Officer, Port of Spain, Trinidad, W.I. Price 2s. 6d. net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.

Expectant Motherhood, its Supervision and Hygiene. By J. W. Ballantyne, M.D., F.R.C.P. Edin., Physician to the Royal Maternity Hospital, Edinburgh. Price 6s. net.

CHURCHILL, J. AND A., London.

Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXVII., being Vol. LII. of the Third Series. Price not stated.

COLLEGE OF PHYSICIANS AND SURGEONS, New York.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. XIII. 1913. Reprints. Price not stated.

DENTAL RECORD, Office of the, Alston House, Newman-street, London, W.

Dental Diseases in Relation to Public Health. By J. Sim Wallace, D.Sc., M.D., L.D.S. Price 3s. net.

EWART, SEYMOUR, AND CO., LIMITED, 12, Burleigh-street, Strand, London, W.C.

Electro-pathology and Therapeutics. By Arthur E. Baines, Sometime Editor of "The Electrical Engineer," together with a Prefatory Treatise upon the Nervous System in its Relation to Neuro-Electricity by F. H. Bowman, D.Sc., F.R.S. Edin., M.I.E.E., F.I.C., F.C.S. Berl. Price 5s. net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

The Early Diagnosis of Tubercle. By Clive Riviere, M.D., F.R.C.P., Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park, E. Price 6s. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

The Cancer Problem. A Statistical Study. By C. E. Green, F.R.S.E. Third edition. Price 5s. net.

HEINEMANN, WILLIAM, London.

Man's Miracle. The Story of Helen Keller and her European Sisters. From the French of Gerard Harry. With a Foreword by Georgette Leblanc-Maeterlinck. Price 5s. 6d. net.

HODDER AND STOUGHTON, London. (Published for the University of London Press, Limited.)

London Medical Publications. Diseases of the Ear, Nose, and Throat. By George Nixon Bigg, M.B., B.S. Durh., Consulting Aural Surgeon, Evelina Hospital for Sick Children. Price 10s. 6d. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Sister Henrietta, C.S.M. and A. A. Bloemfontein. Kimberley. 1874–1911. Edited by Dowager Lady Loch and Miss Stockdale. Price 2s. 6d. net.

The Medical Inspection of Girls in Secondary Schools. By Catherine Chisholm, B.A., M.D., Medical Inspector to the Manchester High School for Girls. Price 3s. 6d.

TREAT, E. B., AND COMPANY, 241–3, West 23rd-street, New York.

Diseases of the Rectum and Pelvic Colon. By Martin L. Bodkin, M.D. New York, Rectal Surgeon, St. Mary's Hospital, the Williamsburg Hospital, and the Howard Orphan Asylum. Illustrations specially drawn by Francis A. Deck. Price not stated.

WASHBOURNE, R. AND T., LIMITED, Paternoster-row, London; and at Manchester, Birmingham, and Glasgow.

Spiritual Director and Physician. The Spiritual Treatment of Sufferers from Nerves and Scruples. From the French of Rev. Fr. V. Raymond, O.P., Chaplain to the Kneipp Institute at Woerishofen (Bavaria). Translated by Dom Aloysius Smith, C.R.L. Price 5s. net.

YEAR BOOK PRESS, THE, 31, Museum-street, London, W.C

The Public Schools Year Book, 1914. Edited by H. F. W. Deane, M.A., F.S.A., and W. A. Evans, M.A. Price 5s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALDRICH-BLAKE, LOUISA B., M.D., M.S. Lond., has been appointed Acting Dean of the London School of Medicine for Women, vice the late Dr. J. H. Cook.

COLE, SYDNEY JOHN, M.D., B.Ch. Oxon., has been appointed Medical Superintendent of the Wilts County Asylum, Devizes.

GRIFFITHS, E. M., M.B., B.Ch. Aberd., has been appointed Medical Officer of Abercorn.

JOHNSTON, G. J. W., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Fleetwood District of the county of Lancaster.

JOLL, C. A., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal Free Hospital.

MCKEE, SAMUEL KENNY, M.B., B.Ch., B.A.O. Belf., D.P.H., has been appointed Assistant Medical Officer of Health of Exeter.

O'BRIEN, P. J., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Midleton District of the county of Cork.

PARRY, L. A., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Sussex Eye Hospital, Brighton.

PENMEWAN, WILLIAM, M.D. Lond., F.R.C.S. Eng., has been appointed Lecturer in Laryngology in the University of Liverpool.

SHAW, J. R., M.B., Ch.B. Glasg., has been appointed an Assistant School Medical Officer for Cheshire.

TWIST, N. S., M.B., Ch.B. Leeds, has been appointed Poor-law Medical Officer for Normanton District and Public Vaccinator for Normanton and Altofts District of the Wakefield Union.

WEBB, C. W., M.D., B.Ch. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ballyward District of the county of Down.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, &c.

BERKSHIRE COUNTY COUNCIL.—Tuberculosis Officer. Salary £500 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £220 per annum, and rooms, fire, lights, and attendance.

BIRMINGHAM MATERNITY HOSPITAL.—Female House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

BIRMINGHAM UNION, SELLY OAK INFIRMARY.—Resident Assistant Medical Officer. Salary £160 per annum.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTITUBERCULOSIS CENTRE, Broad-street.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board and residence.

BLACKBURN COUNTY BOROUGH EDUCATION COMMITTEE.—School Medical Inspector and Assistant to Medical Officer of Health. Salary £300 per annum.

BLACKBURN UNION WORKHOUSE AND COTTAGE HOMES.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, rations, washing, and attendance.

BOARD OF CONTROL (MENTAL DEFICIENCY ACT, 1913).—Three Inspectors (one Female). Salaries £500, £400, and £350 per annum.

BOURNEMOUTH COUNTY BOROUGH EDUCATION COMMITTEE.—School Medical Officer. Salary £300 per annum.

BRENTWOOD ASYLUM, Brentwood, Essex.—Assistant Medical Officer. Salary £200 per annum, with board, attendance, lodging, and washing.

BRISTOL UNIVERSITY.—Demonstratorship in Physiology. Salary £180.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer, unmarried. Salary £220 per annum, with apartments, attendance, laundry, &c.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer as House Physician for first six months and House Surgeon during ensuing six months. Salary at rate of £30 and £100 per annum respectively, with board, lodging, and washing.

CATERHAM ASYLUM, Caterham, Surrey.—Senior Assistant Medical Officer. Salary £300 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Assistant Surgeon.

CHARING CROSS HOSPITAL.—Obstetric Registrar.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. Salary £40 per annum.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

CITY OF WESTMINSTER UNION INFIRMARY, Colindale-avenue, Hendon, N.W.—Assistant Medical Officer. Salary £180 per annum, with board, residence, and washing.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

DAVOS-PLATZ, SWITZERLAND, QUEEN ALEXANDRA SANATORIUM.—Assistant Medical Officer. Salary £100 per annum, with board, residence, and washing.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY, NEW DEPARTMENT FOR THE EYE, EAR, NOSE, AND THROAT.—Honorary Surgeon.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £125 per annum, with residence, board, and laundry.

DURBAN MUNICIPALITY.—Assistant Medical Officer of Health. Salary £600 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL.—Two Indoor House Surgeons for six months, Two Outdoor House Surgeons for three months, and One Outdoor House Surgeon at West-End Branch.

GLOUCESTER, BARNWOOD HOUSE HOSPITAL FOR MENTAL DISEASES.—Second Assistant Medical Officer. Salary £250 per annum, with board, &c.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GREENWICH, DREADNOUGHT HOSPITAL.—Medical Registrar. Salary £100 per annum, with luncheon. Also Assistant Physician.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HAMPSTEAD AND NORTH-WEST LONDON HOSPITAL.—Clinical Assistants at Out-patients' Department, Bayham-street, for six months.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Pathologist. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon for six months. Salary £30, with board and residence, &c.

HUDDERSFIELD COUNTY BOROUGH.—Assistant Medical Officer of Health (Female). Salary £250 per annum.

ISLE OF ELY, ADMINISTRATIVE COUNTY OF.—Assistant Medical Officer of Health. Salary at rate of £350 per annum.

KING EDWARD VII.'S SANATORIUM, Midhurst, Sussex.—First Assistant Medical Officer. Salary £200 per annum, with board, lodging, and attendance.

LANCASHIRE COUNTY COUNCIL.—Four Assistant Dispensary Tuberculosis Officers. Salary £350 per annum. Also Two Junior Assistant Tuberculosis Officers. Salary £300 per annum.

LANCASHIRE COUNTY COUNCIL AND COUNTY BOROUGH OF BURY JOINT COMMITTEE, Bury.—Joint Tuberculosis Officer. Salary £400 per annum.

LEAMINGTON SPA, WARNEFORD LEAMINGTON AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS GENERAL INFIRMARY.—House Physician for six months. No salary, but board, residence, and laundry provided.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

LEEDS TOWNSHIP INDOOR INSTITUTIONS, Beckett-street.—Two Assistant Medical Officers, unmarried. Salary £160 per annum, with board, washing, apartments, and attendance.

LEEDS UNIVERSITY.—Demonstrator in Bacteriology. Salary £250 per annum.

LEICESTER EDUCATION COMMITTEE.—Female Assistant Medical Officer. Salary £250 per annum.

LEICESTER, LEICESTERSHIRE COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary at rate of £300 per annum.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LEICESTERSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Three House Surgeons and Two House Physicians for six months. Salaries at rate of £60 per annum, with residence and maintenance.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

LONDON LOCK HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, near Manchester.—Resident Medical Officer, unmarried. Salary at rate of £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL (OUT-PATIENTS' DEPARTMENT), Gartside-street, Manchester.—Assistant Medical Officer for six months. Salary £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST, CROSSLEY SANATORIUM, Delamere Forest, Cheshire.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Two Honorary Assistant Physicians, Two Honorary Assistant Surgeons, and an Honorary Dental Surgeon.

MARGATE, ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £150 per annum for first six months, and £200 per annum for second six months, with board, residence, and laundry.

MARGATE, ROYAL SCHOOL FOR DEAF AND DUMB CHILDREN.—Medical Officer. Salary £150 per annum.

METROPOLITAN ASYLUMS BOARD.—Dental Surgeon. Salary £350 per annum, and luncheon daily when on duty.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £85 per annum, with board, residence, and laundry.

NOTTINGHAM, CITY OF.—Resident Assistant Medical Officer, unmarried, for Bagthorpe Institution and Infirmary for six months. Salary at rate of £165 per annum, with apartments, &c.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

PAISLEY, ROYAL ALEXANDRA INFIRMARY.—House Physician and House Surgeon. Salary £80 each, with bed and board.

PORTSMOUTH, BOROUGH OF.—Assistant Medical Officer for the Inspection of School Children. Salary at rate of £250 per annum.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Pathologist. Salary £150 per annum.

PRESTON, ELSWICK SANATORIUM, near Kirkham.—Medical Superintendent. Salary £300 per annum, with board, apartments, and washing.

PRESTON ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Pathologist and Registrar. Salary at rate of £80 per annum, and lunch. Also Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—Resident House Physician for six months. Salary at rate of £110 per annum, with board, residence, and laundry.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointments.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL (Out-patient Department).—Female House Surgeon. Salary £75 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

SINGAPORE INFECTIOUS DISEASES HOSPITAL.—Medical Superintendent. Salary 4200 dollars for the first, 4500 dollars for the second, and 4800 dollars for the third year, with furnished quarters.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £125 per annum, with board, washing, and attendance.

WEST BROMWICH COUNTY BOROUGH EDUCATION COMMITTEE.—Female School Medical Officer. Salary £250 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Clinical Assistants to Out-patients.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician. Also Honorary Radiographer.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians, Three House Surgeons, and Resident Casualty Officer for six months. Board, lodging, and laundry allowance provided.

WEST RIDING COUNTY COUNCIL EDUCATION COMMITTEE.—Eye Specialist. Salary £350 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOOLWICH INFIRMARY, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Crediton, in the county of Devon; at Knaresborough, in the county of York; and at Ongar, in the county of ESSEX.

Births, Marriages, and Deaths.

BIRTHS.

DONALD.—On Feb. 12th, at Liskeard, Cornwall, the wife of John Donald, M.D., of a daughter.

PRINGLE.—On Feb. 11th, at Withington-road, Whalley Range, to Dr. and Mrs. John Pringle, a son.

MARRIAGES.

FRANKAU—McDOUGALL.—On Feb. 11th, at All Saints' Parish Church, Milford-on-Sea, Claude Frankau, F.R.C.S., to Edith Lorne, third daughter of the late A. F. McDougall, of Rendham, and Mrs. McDougall.

FROST—RAWLINS.—On Jan. 15th, at St. Luke's Church, Jullundur, India, Lieutenant-Colonel G. H. Frost, I.M.S., to Sara, daughter of the late Major-General J. S. Rawlins.

DEATHS.

GILCHRIST.—On Feb. 8th, at Cimiez, Nice, Dr. A. W. Gilchrist, aged 58 years.

MAXWELL.—On Feb. 13th, at 29, Woolwich Common, Woolwich, Theodore Maxwell, M.D., B.A., B.Sc., aged 66.

PAUL.—On Feb. 14th, at "Costebella," Torquay, John Ernest Paul, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HIGHER EDUCATION OF WORKING PEOPLE.

THE report of the University of London Joint Committee for the Promotion of the Higher Education of Working People on the work of the four years 1909-13 has been issued, and forms an interesting document. This committee, which was established by the University in 1909 as a result of representations made to the University by the Workers' Educational Association to promote the extension of university teaching among working people, is constituted of seven representatives each from the University Extension Board and the Workers' Educational Association, the University representatives guarding the standard of the teaching while the Association's representatives guide its direction into channels suited to the requirements of those who are to benefit from its operations. Within certain limits the students are left free to choose their subjects and to have a voice in the choice of their tutor and in the conduct of the class meetings. On the other hand, each student has to sign an undertaking to attend regularly throughout the three years' course and to write a satisfactory number of papers for the tutor on questions connected with the subject of study. Each class meets once a week for 24 weeks in the session, the time allotted being two hours, of which the first hour is devoted to the lecture, the second being given up to free discussion and consideration of individual difficulties. The subjects of study comprise history, literature, economics, sociology, political science, and biology, controversial questions, which inevitably occur in these subjects, being treated with strict impartiality. The progress of the movement may be estimated from the fact that starting in two classes established in 1907 by the University of Oxford to-day every university and university college in England and Wales is responsible for one or more classes. If one had any doubt of the possibilities for good of such a movement it would surely be dispelled on reading the expressions of opinion, quoted in the report from some of the students: they are broad, penetrating, discriminating in idea, and lucidly worded. It seems regrettable that so admirable an institution should be cramped in its energies for lack of funds. The beneficent character of a movement which automatically selects the fittest for improvement should secure for it the public support it needs.

HEALTH AND HOSPITALS IN TRINIDAD.

A REPORT, prepared by Mr. S. W. Knaggs, C.M.G., Colonial Secretary, on the Blue-book of Trinidad and Tobago for the year 1912-13, has been presented to Parliament. It gives the estimated population of Trinidad as 312,790 and that of Tobago as 20,762. The infirm population included 811 deaf and dumb persons, 533 blind, 952 mentally deranged, and 349 lepers. The births during the year numbered 11,711 and the deaths 10,295. The general health was good. There were six cases of bubonic plague, but the energetic precautions of the Sanitary Department prevented any spread of the disease. A serious outbreak of dysentery, lasting from June to December, 1912, occurred in Tobago; there were 3179 cases and 466 deaths. The outbreak was attributable to a defective water-supply and to the want of proper sanitary supervision, and measures are being taken to deal with the recommendations of the medical authorities under these heads. A very important and successful conference assembled in 1913 to consider the desirability of adopting general measures for the prevention and treatment of tuberculosis, an increasingly prevalent disease in the West Indian Colonies. Proposals for giving effect to the measures advocated at this conference are now under the consideration of the Trinidad Legislature.

The Colonial Hospital, Port of Spain, with 320 beds, is the most important in the colony. The number of patients admitted during the year was 6451, the number discharged 5668, and the daily average in hospital 291. The number of deaths was 823. Of those discharged, 2004 were cured, 3453 were relieved, and 211 were not improved. At the San Fernando Hospital, which has 120 beds, 3004 persons were admitted and 2569 discharged, the daily average in hospital being 102. District hospitals are also maintained by the Government at Tobago, Arima, St. Joseph, Tacarigua, Couva, Princestown, and Cedros, with an aggregate accommodation of 246 beds. The number of patients in these on March 31st, 1913, was 182. In addition, there are small temporary hospitals at Chaguanas, Sangre Grande, and Mayaro. There are two

hospitals devoted entirely to the treatment of persons suffering from yaws—one in Trinidad and the other in Tobago. The former has accommodation for 200 patients and the latter for 160. The use of salvarsan in the treatment of this disease continues to give very favourable results, the number in the Trinidad Hospital having been reduced during the year from 135 to 32, and those in the Tobago Hospital from 79 to 15. These numbers have, however, again increased, owing to fresh cases having been brought in. The Lunatic Asylum in Port of Spain contained on March 31st, 1913, 672 inmates—408 males and 264 females. There were 64 deaths during the year and the number of discharged was 48, of whom 39 were cured, 6 relieved, and 3 not improved. The average stay of inmates of the asylum was in the case of men 2½ years and in the case of women 4½ years. The Leper Asylum, situated about two miles west of Port of Spain, contained at the close of the year 233 inmates—202 males and 31 females. The number of admissions was 96, discharges 59, and deaths 39.

MARTIAL AND MEDICINE.

To the Editor of THE LANCET.

SIR,—Turning over Mr. Hugh Platt's "A Last Ramble in the Classics," which you reviewed in THE LANCET of June 22nd, 1907 (p. 1717), I came across (at p. 38) this epigram (vi. 53), which I had quite forgotten when I wrote to you previously on this subject, and which Dr. Raymond Crawfurd did not give us in his interesting paper:—

"Lotus nobiscum est, hilaris cœnavit; et idem
Inventus mane est mortuus Andragoras.
Tam subitae mortis causam, Faustine, requiris?
In somnis medicum viderat Hermocratem."

Mr. Platt roughly renders the Latin thus:—

"Last night he supped and jested at our side,
Now he lies cold in death. Ah, why? they cried.
He dreamt he saw Sir Bolus, and he died."

This joke Mr. Platt thinks may have been suggested by a Greek epigram by one Lucilius, a pensioner of Nero (Anth., Pal. xi., 257):—

Ἑρμογένη τὸν ἰατρὸν ἰδὼν Διόφαντος ἐν ὕπνοις
Οὐκέτ' ἀνηγέρθη, καὶ περίαμμα φέρων.

(i.e., though he wore an amulet). Mr. Platt also "Englishes," but equally roughly, the epigram (v. 9) "Languebam, &c." which Dr. Crawfurd has rendered, I think, more in accordance with the original. I wish I had remembered to look it up in time for my letter which you published on Dec. 13th.

I am, Sir, yours faithfully,
Feb. 18th, 1914. EDWIN A. EADE.

A MEDICAL MISSION IN PERSIA.

Mr. T. G. Grahame, British Consul-General for the Province of Ispahan, Persia, in his report for the year ending March, 1913, just received at the Foreign Office, mentions that a medical mission in connexion with the Church Missionary Society, first established in Julfa in 1879, was transferred to Ispahan in 1904, when buildings erected for the purpose in the Shamsabad quarter of the town were inaugurated. They comprise a men's hospital with accommodation for 110 patients, and a women's hospital with accommodation for 80 patients. A private ward for European patients is in course of construction and will shortly be ready for use. The men's hospital staff consists of two European doctors, one European nurse, and 14 Persian assistants; the women's hospital staff consists of two European doctors (ladies), one European nurse, and seven Persian nurses. A dispensary is maintained in Jubareh (the Jewish quarter of Ispahan) in connexion with the medical work of the society. Since 1904 a free dispensary has been maintained at the expense of His Majesty's Government at the British Consulate-General, the medical officer being Dr. M. S. P. Aganoor (British Vice-Consul). The number of patients treated during the year 1912-13 was 7729, as against 6492 in 1911-12. The demand for European medicines continues to increase, not only in the town of Ispahan but in the districts and even among the Bakhtiari and Kashgai tribesmen, the medical work of the Church Missionary Society daily familiarising a larger portion of the native population with the use of Western drugs. For some years past a leading British firm of chemists has been represented in Ispahan.

METRIC WEIGHTS AND MEASURES.

To the Editor of THE LANCET.

SIR,—Thank you for publishing my letter entitled "Centimetres and Inches" in THE LANCET of Feb. 7th. Since then I have had an opportunity of seeing the report of the Decimal Association upon the year 1913, and a verbatim report of Mr. Alexander Siemens's address at Bradford on Nov. 17th last to the members of the Bradford Textile Society and the ensuing discussion. This can be obtained from the secretary of the association, Finsbury-court, Finsbury-pavement, London, price 3*d.*, and is interesting to others besides the particular society mentioned. An important resolution was passed favouring the compulsory adoption of the metric weights and measures in this country after an ample period of time to prepare for the change. One of the ways of preparing for the change is to familiarise people with the system by bringing home to them the concrete conception of the weights and measures connected with familiar objects. Now, during the last week we have been told of the ingenious toys and models (of town halls, locomotives, aeroplanes, &c.) which may be constructed out of safety matches and their boxes. Safety matches which are now so well known may also serve other useful purposes. Eight ordinary safety matches will give quite an insight into the metric system. For example, two matches placed end to end equal 1 decimetre, and a square decimetre may be made by placing the remaining six matches in similar couples at right angles. The square decimetre is one of the six sides of a cube which measures 1 litre, and the litre of water weighs 1 kilogramme. Again, five matches placed end to end measure 25 centimetres or ¼ metre. A match and a half on the end of a yard stick will turn it into a metre. The whole eight matches arranged parallel quite close together with the heads alternately up and down measure 2 centimetres in breadth. The weight of the eight matches is 1 gramme. Moreover, six of the matches placed end to end will measure one foot in length, and half a match equals one inch. Each match weighs 2 grains roughly. Therefore there are 16 grains to the gramme, roughly (really 15·43). In addition there are 123 grains (123·27) in a British sovereign (£1) (an easy number to remember) or 8 grammes weight almost exactly, and 4 grammes in a half-sovereign. This is only a small example of the methods of making people realise what the system really consists of.

I am, Sir, yours faithfully,
London, Feb. 14th, 1914. W.

Messrs. A. Wulfing and Co., of Chenies-street, London, W.C., inform us that the King of Spain has granted to them his royal warrant for sanatogen, albulactin, and their other products. Messrs. Wulfing add that albulactin is used in the Royal nurseries for their Majesties' infants.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.
„ 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage, Bruxelles.)
„ 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
„ 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
„ 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
„ 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
June 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
„ 8th–10th (Oxford).—Ophthalmological Congress.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 18th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 12	29·62	S.W.	0·36	81	52	44	43	44	Cloudy
„ 13	29·90	S.W.	0·05	79	54	40	39	41	Fine
„ 14	29·78	S.W.	0·15	87	59	41	52	54	Cloudy
„ 15	29·65	S.W.	0·02	76	54	53	52	53	Raining
„ 16	29·92	S.W.	0·03	55	48	44	44	45	Overcast
„ 17	30·10	S.W.	...	79	50	38	37	38	Fine
„ 18	29·50	S.W.	0·26	56	46	38	44	44	Raining

The following journals, magazines, &c., have been received:— Tropical Diseases Bulletin, Midland Medical Journal, American Journal of Medical Sciences, British Dental Journal, American Journal of Surgery, Pediatrics, Bulletin of the Johns Hopkins Hospital, Alienist, Indian Medical Journal, Indian Journal of Medical Research, American Journal of Tropical Diseases and Preventive Medicine, Symons's Meteorological Magazine, Surgery, Gynecology, and Obstetrics, Albany Medical Annals, Therapist, Klinik für Psychische und Nervöse Krankheiten, St. Paul Medical Journal, Archives Internationales de Neurologie, Annales de la Policlinique Centrale, Deutsche Zeitschrift für Nervenheilkunde, Revue de Médecine, Revue de Chirurgie, International Journal of Surgery, Canadian Journal of Medicine and Surgery, American Medicine.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Lord Rayleigh, O.M.: On the Diffraction of Light by Spheres of Small Relative Index.—Prof. H. B. Armstrong and Prof. F. P. Worley: (1) Studies of the Properties Operative in Solutions. XXXI., Sulphonic Acids and Sulphuric Acid as Hydrolytic Agents: a Discussion of the Constitution of Sulphuric and Other Polybasic Acids and of the Nature of Acids; (2) XXXII., The Influence of Sulphonates on the Hydrolytic Activity of Sulphonic Acids: a Contribution to the Discussion on the Influence of Neutral Salts.—Prof. H. E. Armstrong, Mr. R. T. Colgate, and Mr. E. H. Rodd: Morphological Studies of Benzene Derivatives. V., The Correlation of Crystalline Form with Molecular Structure: a Verification of the Barlow-Pope Conception of "Valency-Volume."—Prof. E. Wilson: The Magnetic Properties of Iron when Shielded from the Earth's Magnetism (communicated by Prof. J. A. Fleming).—Dr. J. N. Pring: The Occurrence of Ozone in the Upper Atmosphere (communicated by Sir E. Rutherford).—Mr. W. A. D. Rudge: (1) On a Meteoric Iron from Winburg, Orange Free State (communicated by Prof. B. Hopkinson); (2) On the Electrification Produced during the Raising of a Cloud of Dust (communicated by Sir J. J. Thomson).—Prof. W. M. Thornton: The Electrical Ignition of Gaseous Mixtures (communicated by Sir Charles Parsons).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.

Mr. F. St. J. Steadman: Oral Sepsis as a Predisposing Cause of Cancer.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.

Dr. R. Hutchison and Dr. John Parkinson: Case of Paroxysmal Tachycardia in a Child of 2½ Years.

Dr. Gordon R. Ward: Secondary or Symptomatic Leukæmia with Special Reference to Cancer with Bone Metastases.

THURSDAY.

SECTION OF NEUROLOGY, SECTION OF OPHTHALMOLOGY, and SECTION OF OTOLOGY: at 8 P.M. } Combined Meeting.

Cases and Demonstration:

Physiological and Pathological Nystagmus of Labyrinthine Origin.

Discussion (at 9 P.M.):

On Nystagmus (to be opened by Mr. Holmes Spicer, Dr. James Taylor, and Mr. Sydney Scott).

The discussion will be continued on Wednesday, March 4th, at 8.30 P.M., when Dr. Llewellyn, Dr. Dan McKenzie, and others will take part in it.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Dr. F. G. Crookshank: Incurvate Little Fingers in an Afro-Aryan Child.

Dr. J. F. O'Malley: Extensive Cicatricial Pharyngeal Diaphragm following Scarlatina.

Mr. W. Girling Ball: Cyst of the Cæcum.

Mr. W. Barrington Ward: Enlargement of the Mammary Gland in a Boy.

Dr. Edmund Cautley: (1) Multiple Subcutaneous Tumours in the Arm; (2) Subacute Nephritis, with Ascites and Uræmia, ending in Recovery; (3) Serous Apoplexy (?).

Dr. Langmead: So-called Congenital Hypertrophic Stenosis of the Pylorus.

And other Cases.

SECTION OF EPIDEMIOLOGY (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Lecture:

Sir Ronald Ross, K.C.B., F.R.S.: Malaria in Cyprus and Greece.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Clinical and Pathological Evening.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

WEDNESDAY.—4 P.M., Exhibition of Cases.

HUNTERIAN SOCIETY, Guy's Hospital, London Bridge, S.E.

WEDNESDAY.—4 P.M., Clinical Afternoon. Dr. Iredell: Demonstration of Diathermy and the Results of the Treatment in Certain Cases.—Mr. J. G. Saner: Cases of Ileo-sigmoidostomy and Colectomy Operated on between January and June, 1910 (with Sir Arbuthnot Lane's kind permission).—Dr. Hunt: Demonstration of the Electro-cardiograph.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Milroy Lecture:—Dr. F. Shufflebotham: The Hygienic Aspect of the Coal Mining Industry in the United Kingdom. (Lectures II. and III.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Hunterian Lectures:—Prof. A. Keith: Evolution and Diseases of the Anthropoid Apes: Lecture IV., Injuries and Diseases of Anthropoid Apes; Lecture V., Structural Changes Due to Age, Sex, and other Conditions; Lecture VI., A Résumé of the Present State of Knowledge regarding the Various Forms of Extinct Anthropoids. (Illustrated by specimens from the Museum of the College; the epidiascope will also be used.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. J. L. Mummery: Common Errors in Diagnosis—Rectal.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Mr. K. Campbell: Common Errors in Diagnosis—Eye.

WEDNESDAY.—4 P.M., Mr. G. E. Waugh: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Guthrie: Common Errors in Diagnosis—Children.

THURSDAY.—4 P.M., Mr. A. Carless: Clinique (Surgical). 5.15 P.M., Lecture:—Sir StClair Thomson: Common Errors in Diagnosis—Nose and Throat.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pritchard: Meningitis.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Meningitis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Addison: Diseases of the Breast.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Diseases of the Breast.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Addison: Diseases of the Breast.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. B. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). X Rays and Electrical Methods. 3 P.M., The Bismuth Meal and its Interpretation. 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.15 P.M., Mr. Gillies: Nasal Polypi.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. B. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bigg: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.
FRIDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. R. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON) Clinical Theatre, London Hospital, Mile End-road, E.
Course of Lectures on the Neuroses and Psychoses of Children:—
MONDAY.—4.15 P.M., Dr. F. Warner: Cultivation of Mental Powers and Systematic Training.
Course of Lectures on Syphilology:—
TUESDAY AND WEDNESDAY.—4.15 P.M., Dr. W. J. Hadley: The Heart and Blood Vessels.
FRIDAY.—4.15 P.M., Dr. J. H. Sequeira: The Skin.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY.—4.30 P.M., Demonstration:—Dr. Fenton: Cases of Non-tuberculous Diseases of the Chest.

THE THROAT HOSPITAL, Golden-square, W.
MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY.—3 P.M., Lecture:—Dr. A. Wylie: The Causes and Treatment of Hoarseness.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY AND FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. L. Paton: Optic Atrophy.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.
THURSDAY.—4 P.M., Lecture:—Mr. S. Stephenson: The Common Eye Disease of Childhood—Phlyctenulosis.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.
Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—
WEDNESDAY.—5 P.M., Mr. Swan: Tumours of the Bladder.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
TUESDAY.—6 P.M., Dr. W. K. Sibley: Treatment of Syphilis.
THURSDAY.—6 P.M., Dr. M. Dockrell: The Solution of the Confusion between Pityriasis Rubra Pilaris and Lichen and the Treatment of Each.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.
Course of Instruction for Tuberculosis Officers, School Medical Officers Medical Practitioners, &c.:—
FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture VI.:—Dr. C. Wall: Treatment—General.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.
TUESDAY.—3 P.M., Prof. W. Bateson: Animals and Plants under Domestication. (Lecture VI.)
SATURDAY.—3 P.M., Prof. Sir J. J. Thomson, O.M.: Recent Discoveries in Physical Science. (Lecture I.)

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.
MONDAY.—MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.—4.30 P.M., Mr. J. A. Jones: Aural Sepsis.
TUESDAY.—SALFORD ROYAL HOSPITAL.—4.30 P.M., Dr. Tylecote: Demonstration of Medical Cases in Wards.
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Dr. E. B. Leech: Cases of Enlarged Spleen.
THURSDAY.—ANCOATS HOSPITAL.—4.30 P.M., Mr. J. Morley: Chronic Pain in the Right Iliac Fossa.
FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. J. Wharton: Optic Neuritis and Atrophy.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.
MONDAY.—10 A.M., Obstetrical Lecture: Rupture of the Uterus. (continued). 11 A.M. Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations.
WEDNESDAY.—10 A.M., Obstetrical Lecture: The Varieties of Contracted Pelvis. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: The Operative Treatment of Backward Displacement of the Uterus. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

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